

From: (b)(6)
Sent: 9/8/2020 5:34:42 AM
To: Fox Around The World [foxaroundtheworld@foxbusiness.com]; Fox Around The World [foxaroundtheworld@foxbusiness.com]
CC: Susan Michie [s.michie@ucl.ac.uk]; Professor Sir David Clary [david.clary@magd.ox.ac.uk]; John Penrose [beaupererec@parliament.uk]; Diana Mary Harding. [contactholmec@parliament.uk]; Susan Diane Wojcicki [SGWEG@slac.stanford.edu]; adrienne.bankert@abc.com; tkoyama@us.ibm.com; Julian.Reichelt@bild.de; dolorescahill@gmail.com.; pressoffice@ruptly.tv; andreas.geisel@spd.parlament-berlin.de; Nancy.Harmeyer@foxnews.com; marianna.spring@bbc.co.uk; mark.woolhouse@ed.ac.uk; brian.rose@londonreal.tv; Dana Kozlov [dakozlov@cbs.com]; Brad Edwards [baedwards@cbs.com]; John Bel Edwards [govpress@la.gov]; David Edwards Raw Story [david@rawstory.com]; Richard M Novak MD [rmnovak@uic.edu]; Brett P. Giroir [ASH@hhs.gov]; Alex Azar II [secretary@hhs.gov]; Azar, Alex (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4db7abd56a7e478883f5cd8e2e8a18d3-HHS-Alex.Az]; Giroir, Brett (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ee4c4234d3834c77a4a1a7b1a7c176a2-HHS-Brett.G]; Trey.Gowdy@nelsonmullins.com; trey.gowdy@foxnews.com; Harris Kimberly Faulkner [harris.faulkner@foxnews.com]; JMUSTIAN@ap.org; theodore.long@hms.harvard.edu; theodore.long@yale.edu; ted.long@nychealthandhospitals.org; neil.vora@cdc.gov; neil.vora@nychealthandhospitals.org; Kamala Devi Harris [Kamala_Harris@harris.senate.gov]; Kamala Devi Harris [chris_harris@harris.senate.gov]; mediainquiries@cision.com; dharris@stanford.edu; alex.hogan@foxnews.com; BMcCloskey@chathamhouse.org; dheyman@chathamhouse.org.uk; michael.edelstein@doctors.org.uk; LDonaldson@chathamhouse.org; cclift@chathamhouse.org.uk; ranshba@chathamhouse.org; CMunozParry@chathamhouse.org; iain.begg@lse.ac.uk; john.major@chathamhouse.org; jmajor@chathamhouse.org; nicholas.burns@chathamhouse.org; nburns@chathamhouse.org; vchu@chathamhouse.org; victor.chu@chathamhouse.org; Eliza.Manningham-Buller@chathamhouse.org; emanninghambuller@chathamhouse.org; fiona.watt@kcl.ac.uk; fiona.watt@mrc.ukri.org; Elvira.Nabiullina@rdif.ru; Sergei.Ivanov@rdif.ru; Andrey.Belousov@rdif.ru; Maksim.Oreshkin@rdif.ru; Dominique.Strauss-Kahn@rdif.ru; Vladimir.Dmitriev@rdif.ru; Kirill.Dmitriev@rdif.ru; Kirill.Dmitriev@weforum.org; sputnikvaccine@rdif.ru; gintsburg@gamaleya.org; pronin@gamaleya.org; Michelle.Tuzee@abc7.com; marc.brown@abc7.com; lisa.booth@foxnews.com; smilligan@usnews.com; HGodman@usnews.com; Gordon.Robertson@cbn.com; lori.johnson@cbn.com; KGO-TV.Programming@abc.com; press@rosminzdrav.ru; info@rosminzdrav.ru; Kimberly.Hunt@10news.com; leon.clark@10news.com; Doris.Lewis@10news.com; bbloom@hsph.harvard.edu; florian.krammer@mssm.edu; Bai.Yansong@cctv.com; Edward.Law@cctv.com; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; Joel Scott Osteen [press@siriusxm.com]; Victoria L Iloff [advertising@siriusxm.com]; joel@lakewoodchurch.com; Lloyd E Campbell [lcampbell@spencerstuart.com]; Charles Philip Arthur George [fma@weforum.org]; Muriel Elizabeth Bowser [eom@dc.gov]; margaret.satterthwaite@nyu.edu; Andrew Mark Cuomo SJ [Press.Office@exec.ny.gov]; tara.brown@nine.com.au; 60Minutes@nine.com.au; naomi.shivaraman@nine.com.au; tdikeos@nine.com.au; Scott Gottlieb illuminati [info@illumina.com]; Scott.Gottlieb@aei.org; Scott Gottlieb [Brendan.Rascius@aei.org]; steve@apiject.com; jay@apiject.com; Clarisse Mason [masonc@who.int]; David Malpass [DMalpass@ifc.org]; David Wilson [dwilson@worldbank.org]; Mamadi Yilla [yillam2@state.gov]; staff@the-ascii.org; grotenfelt.nora@gmail.com; nathalie.macdermott@kcl.ac.uk; producersgroup@rttv.ru; RT-US@rttv.ru; rick.sanchez@rttv.ru; justin@propublica.org; lsullivan@npr.org; prothma1@jhmi.edu; gail.mcGovern@redcross.org; david.meltzer@redcross.org; gail.mcGovern@dteenergy.com; gail.mcGovern@paypal.com; eliot_cohen@jhu.edu; david.rubenstein@jhu.edu; gail.mcGovern@jhu.edu; Mercedes.Lopez-Blanco@archny.org; Timothy.Dolan@archny.org; Robert.t.Ritche@archny.org; Ed.Dougherty@archny.org; Donald.Haggerty@archny.org; Wolf Isaac Blitzer [wolf.blitzer@turner.com]; Alison.Morris@nbcuni.com; contact@unwomenforpeace.org; Conchita.Sarnoff@conchitasarnoff.com; Emily.Maitlis@bbc.co.uk; David.Grossman@bbc.co.uk; Imenninger@hmflaw.com; mcohen@cohengresser.com; Susanna.Reid@itv.com; piers.morgan@itv.com; Thomas J Kavalier [tkavalier@cahill.com]; news@highlandscurrent.org; jmeisner@tribune.com; eva.pilgrim@abc.com; jc2287@cumc.columbia.edu; mblabate@cicu.org; Kadlec, Robert P (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=70539a2f88924cc8913781ea74278b12-HHS-Robert.]; Azar, Alex (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4db7abd56a7e478883f5cd8e2e8a18d3-HHS-Alex.Az]; Stanley.Erick@novavax.com; ir@novavax.com; umihighereducation@jesuits.org; Ellison.Barber@nbcuni.com; emily.badger@nytimes.com; Vernon Coleman [press@vernoncoleman.com]; boris.johnson@weforum.org; Anthony

Charles Lynton Blair [info@institute.global]; tony.blair@weforum.org; melanie.walker@weforum.org; mwalker@gatesfoundation.org; BNikolic@gatesfoundation.org; David.Malpass@worldbank.org; Melanie.Walker@ama-assn.org; rachel.scott@abc.com; c.whitty@nhs.net; Andrew.Witty@uhg.com; patrick.vallance@number10.gov.uk; Sir Patrick Vallance [info@acmedsci.ac.uk]; David_S_Wichmann@uhc.com; Ken.Ehlert@uhc.com; Dirk_McMahon@uhc.com; mediacontact@questdiagnostics.com; Hinton, Denise [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=85feca0be0694803be6030e97c7b4adb-HINTOND]; Stephen.Hemsley@uhg.com; hemsleyc@fordhamprep.org; tribe@law.harvard.edu; triversr@gmail.com; dershe@law.harvard.edu; lawrence_summers@hks.harvard.edu; lindsay_jones@hks.harvard.edu; enew@fas.harvard.edu; elisa.new@poetryinamerica.org; Boris.Nikolic@twistbioscience.com; customersupport@twistbioscience.com; Boris.Nikolic@editasmed.com; info@editasmed.com; boris.nikolic@biomaticscapital.com; Julie.Sunderland@biomaticscapital.com; info@biomaticscapital.com; Andrew.Pollard@ovg.ox.ac.uk; dale.woods@nbcuni.com; deedeemyers@warnerbros.com; Jeremy.Farrar@cepi.net; Joachim.Klein@cepi.net; Bryant, Paula R (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eb42f9318014bbb8c14d39ef311d8f9-HHS-paula.b]; Idro.Seferi@dw.com; sarah.mabrouk@dw.com; pisarna@tanja-fajon.eu; maja.kezunovickrasek@tanja-fajon.eu; Tanja.Fajon@ep.europa.eu; jure.tanko@ep.europa.eu; Sasa.Dragojlo@balkaninsight.com; Aleksandar.Vucic@weforum.org; tanja.fajon@europarl.europa.eu; Michelle Powers Net NY TV [michelle.powers@netny.tv]; Stanley.Plotkin@pennmedicine.upenn.edu; Lisa.Bellini@pennmedicine.upenn.edu; Leonard.Hayflick@ucsf.edu; Marie.Bernard@nih.gov; Gruber, Marion [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=019cd2669c7048f7a116d72b7682de44-gruber]; Jim.Sciutto@turner.com; andrewkaufmanmd@gmail.com; Jenny Anne Durkan [jenny.durkan@seattle.gov]; Sean Patrick Hannity [sean.hannity@foxnews.com]; kevin.corke@foxnews.com; dan.springer@foxnews.com; VladimirDuthiers [DuthiersV@cbsnews.com]; Vladimir Putin [pr@nm-g.ru]; Vlad [accredit@gov.ru]; Narendra.Modi@pmindia.gov.in; Eric Frederick Trump [etrump@trumporg.com]; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; jfair@tamu.edu; mwelsh@tamu.edu; Ellen.DeGeneres@nbcuni.com; Subha Nagalakshmi Munchetty-Chendriah [Naga.Munchetty@bbc.co.uk]; William Jefferson Blythe III [press@clintonfoundation.org]; Chancellor Hillary Diane Rodham Clinton [comms.office@qub.ac.uk]; Hillary Diane Rodham Clinton [philippe.reines@bgsdc.com]; Joseph Robinette Biden Jr [jbash@bgsdc.com]; Kate.Bedingfield@joebiden.com; Katherine Anne Couric [Katie.Couric@turner.com]; Katherine Jean "Kate" Bolduan [Kate.Bolduan@turner.com]; Linsey.Davis@abc.com; Tom.Llamas@abc.com; Steve Aduato [Mary.Gamba@steveadubato.org]; Heiko Maas [Heiko.Maas@auswaertigesamt.de]; Matt Hancock UK Health Secretary [matt.hancock@weforum.org]; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@georgetown.edu; John.DeGioia@weforum.org; Tania.Tetlow@loyno.edu; julia.macfarlane@abc.com; emma.gormley@itv.com; thismorning@itv.com; The Rt Hon Boris Johnson MP [press@number10.gov.uk]; Alexander Boris de Pfeffel Johnson [boris.johnson.mp@parliament.uk]; Alisyn.Camerota@turner.com; Alison.Morris@nbcuni.com; Ron DeSantis [media@eog.myflorida.com]; Sadiq Khan [admin@revolvingdoors.org.uk]; His Worship S Khan [dexter@dexterhenry.co.uk]; His Eminence Timothy Cardinal Dolan [maryellen.oconnor@archny.org]; Craig Melvin [Craig.Melvin@nbcuni.com]; Shannon Cake [scake@wptv.com]; NHogensen@scripps.com; Gregory Wayne Abbott [Press@GregAbbott.com]; Alfred Charles Sharpton Jr. [media@nationalactionnetwork.net]; Jennifer Mayerle [jlmayerle@wcco.com]; Jens.Spahn@weforum.org; Daniel.Funke@burda.com; Eckart.Bollmann@burda.com; hubert.burda@burda.com; matt.weiss@burda.com; Philipp.Welte@burda.com; Klaus Schwab [Klaus.Schwab@weforum.org]; friede.springer@axelspringer.com; Mathias.Doepfner@axelspringer.com; MDoepfner@netfix.com; Borge Brende [Borge.Brende@weforum.org]; Kristalina Ivanova Georgieva-Kinova [Kristalina.Kinova@weforum.org]; Al Gore [al.gore@weforum.org]; David M Rubenstein [david.rubenstein@weforum.org]; Heizo Takenaka [Heizo.Takenaka@weforum.org]; Jack Ma [jack.ma@weforum.org]; Matt.Damon@weforum.org; yann.zopf@weforum.org; Zhu Min [Zhu.Min@weforum.org]; forumusa@weforum.org; Lester Don Holt Jr [Lester.Holt@nbcuni.com]; Dr. Pampee Young [media@redcross.org]; brian.stelter@turner.com; fns@foxnews.com; Foxnewssunday2@FOXNEWS.COM; Thomas V Inglesby MD [tinglesby@jhu.edu]; Prof Charles D Todd [ctodd@jhu.edu]; Charles David Todd [chuck.todd@nbcuni.com]; Paul B Rothman MD John Hopkins [crothman@jhu.edu]; Eliot A Cohen [ecohen@jhu.edu]; media@gatesfoundation.org; tvstudio@who.int; lindmeierch@who.int; SalisburyM@who.int; GhebreyesusT@who.int; Joe.Scarborough@nbcuni.com; Gina.Kolata@nytimes.com; stanley@stanleyjohnson.org; hannah.beer@curtisbrown.co.uk; mara.gay@nytimes.com; maggie.haberman@nytimes.com; editor@churchmilitant.com; michael.voris@churchmilitant.com; lawrence.Gostin@weforum.org; Lawrence Oglethorpe Gostin [gostin@law.georgetown.edu]; douglas.emhoff@dlapiper.com; beth.daley@theconversation.com; m.w.calnan@kent.ac.uk; m.n.wass@kent.ac.uk; M.Michaelis@kent.ac.uk; Madeleine.Rivera@foxnews.com; Geraldo.Rivera@foxnews.com; JDeGioia@carnegie.org; John J DeGioia SJ

[cfc@carnegie.org]; John.DeGioia@weforum.org; John.DeGioia@georgetown.edu; Matteo Bruni [Matteo.Bruni@vatican.va]; Alexander.Gintsburg@rdif.ru; Alina.Kabaeva@nm-g.ru; Andrey.Belousov@rdif.ru; Kirill.Dmitriev@rdif.ru; Kruglova Anna M. [amkruglova@rttv.ru]; Maksim.Oreshkin@rdif.ru; Mikhail Albertovich Murashko [NabatovaEA@rosminzdrav.ru]; Nogaeva Oksana G. [ognogaeva@rttv.ru]; ministry@mid.ru; press@rosminzdrav.ru; Dr. Margaret Chan Director General of WHO [chanm@who.int]; Jane Pauley [PauleyS@cbsnews.com]; Susan Zirinsky [SusanZ@cbsnews.com]; Martha Teichner [TeichnerM@cbsnews.com]; Brown, Jeremy (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6e502731145c4045b5e088df526a710b-HHS-jeremy.]; nina.shore@nih.gov; Ward, Jackie M (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9195352dc4c040ca9e98a5434f9b0cca-HHS-jackie.]; Gareth Genner [Gareth.Genner@truststamp.ai]; christoph.jumpelt@dw.com; Karl.Juesten@dw.com; Vicky.Nguyen@nbcuni.com; Constanze.Stelzenmueller [CStelzenmueller@brookings.edu]; sburnett@ap.org; Helge.Braun@bundesregierung.de; Angela.Merkel@bundestag.de; Horst.Seehofer@bundestag.de; andreas.scheuer@bundestag.de; Jens.Spahn@bundestag.de; stefan.kaufmann@bundestag.de; Heiko.Maas@bundestag.de; Helge.Braun@bundestag.de; Helge.Braun@bundeskanzlerin.de; Christine.Lambrecht@bundestag.de; Olaf.Scholz@bundestag.de; Wolfgang.Schauble@bundestag.de; Steffen.Seibert@bpa.bund.de; ulrike.demmer@bpa.bund.de; martina.fietz@bpa.bund.de; Margaret.Chan@Weforum.org; pierre.thomas@abcnews.com; David.Muir@abc.com; matt.gutman@abcnews.com; dmitry.chernychenko@gazprom-media.com; dmitry.chernychenko@gazprom-media.com; Linda@TedNugent.com; Ted@TedNugent.com; Dianne Goldman Berman Feinstein [senator_feinstein@feinstein.senate.gov]; adam_russell@feinstein.senate.gov; ashley_schapitl@feinstein.senate.gov

Subject:

Fwd: Dave: Brian- yr Bill & Mel Iviey - "Davos Man," YouTube Ceo Wojcicki, Mr Orange Uncle Joe exposed, Cats, Freemasons, Feast Day Saint Corona & Hulda Clark



David Muir Exclusive with Bill and Melinda Gates on Coronavirus

Bill & Mel Gates talk CoronaVirus with lots of Nervous handwringing gestures, Pushing Masks & Vaccines on the dumb masses - Nothing will go back to normal until we have the vaccine , says Dr. Gates -

<https://www.youtube.com/watch?v=7ljBjmVMTSk>

To: **David Jason Muir** c/o ABC broadcast-television network, based in New York City

Hi Dave,

Ran across your interview of Bill Gates recently which I found very interesting,

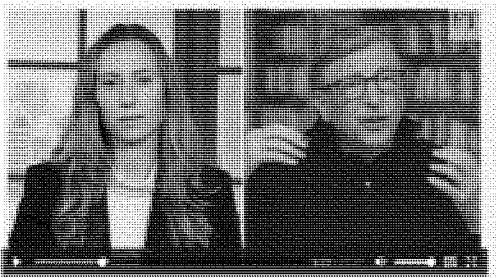


David Muir Exclusive with Bill and Melinda Gates on Coronavirus

Bill & Mel Gates talk CoronaVirus with lots of Nervous handwringing gestures, Pushing Masks & Vaccines on the dumb masses - Nothing will go back to normal until we have the vaccine , says Dr. Gates -

<https://www.youtube.com/watch?v=7ljBjmVMTSk>

Here in this Video Clip, Doctor Gates stresses:



"You don't have a choice, people act like you've got a choice, NORMALCY ONLY RETURNS, when we've largely inoculated the entire global population" .

<https://www.youtube.com/watch?v=PmuE2YeDsOM>

If you look at these other interviews of Bill Gates you will notice the compulsory disorder of constant wringing , gestulating hand movements which to be honest are quite irritating and a bit neurotic and reminded me of a book I read recently and which I recommend:-

Why People Followed Hitler

https://link.springer.com/chapter/10.1007%2F978-1-4899-6084-9_5

I would like to attach a few links for you and your expert news production team to investigate to see if they are newsworthy for your reportages or not.

Thanks Dave. Wishing you all the best, (b)(6)

If you note the following attached interviews of Bill Gates, are of interest just to compare when the wild hand gestures began and to put these in perspective.

Davos Annual Meeting 2008 - a youthful "Davos Man" - Bill Gates -



When the World was getting better according to Doctor William H. Gates III, GER, (not much hand wringing or Hitlerian Gestures)

<https://www.youtube.com/watch?v=Ql-Mtlx31e8>



"Davos Man" Bill Gates interview at 2017 Davos World Economic Forum, Gates predicts 10 million deaths as most likely cause for the next either naturally or intentionally caused epidemic

<https://www.youtube.com/watch?v=ldn1bzTOXPQ>

"Davos Man" Bill Gates Jan 24, 2017 more hand wringing & Hitlerian hand gestures with Matt Murray



<https://www.youtube.com/watch?v=uN2Wh5ARRnQ>

A badly ageing , with wringing hands & Hitlerian hand gestures "Davos Man", Doctor William H. Gates III, Jan 24, 2017 talks more on epidemics & vaccines



<https://www.youtube.com/watch?v=ldn1bzTOXPQ>



William J. Clinton; William H. Gates III; Thabo Mbeki; Tony Blair; Bono; Olusegun Obasanjo—all celebrities, many outright criminals, and all corrupt and out of touch with the urgent needs of humanity.

Photo:- William J. Clinton; William H. Gates III; Thabo Mbeki; Tony Blair; Bono; Olusegun Obasanjo—all celebrities, many outright criminals, and all corrupt and out of touch with the urgent needs of humanity.

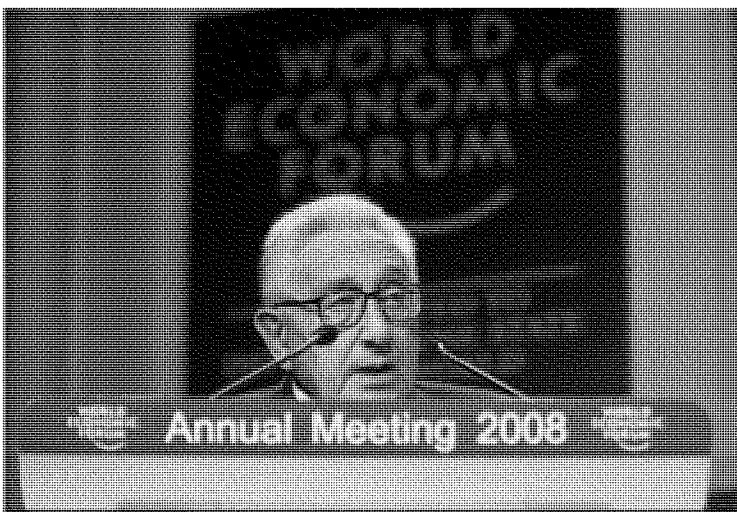


Photo:- As the real mafia that they are, the distinguished Davos crowd value the “expert advice” of old “consiglieri” like Henry Kissinger.

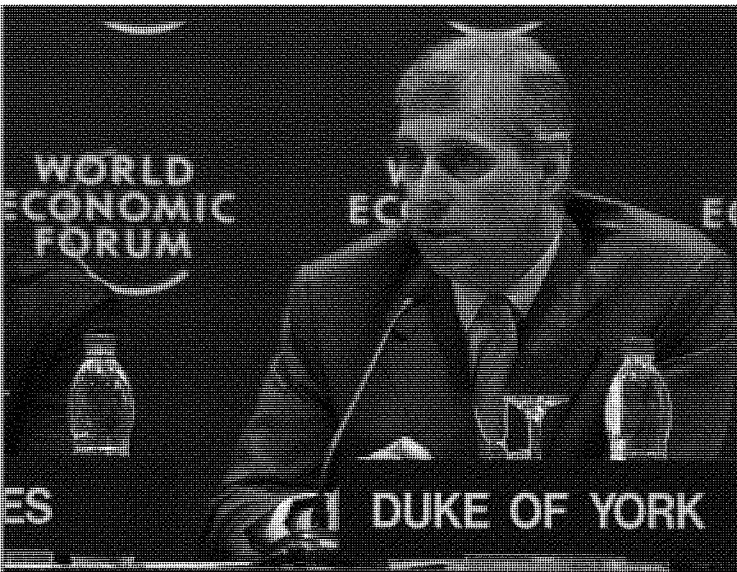


Photo:- Duke of York - & Klaus Schwab -



Indeed, the World Economic Forum’s main purpose is to function as a socializing institution for the emerging global elite, globalization’s “Mafiocracy” of bankers, industrialists, oligarchs, technocrats, [courtiers, celebrities], and politicians. They promote common ideas, and serve common interests: their own.

In 1997, the highly influential U.S. political scientist Samuel Huntington coined the term “Davos Man,”

[The Davos Class] “have little need for national loyalty, view national boundaries as obstacles that are thankfully vanishing, and see national governments as residues from the past whose only useful function is to facilitate the elite’s global operations.” (Samuel Huntington)

<https://www.greenvillepost.com/2015/02/27/the-davos-world-economic-forum-a-history-and-analysis/>

+++++



Brian Stelter interviews YouTube CEO Susan Wojcicki (not for the first time)

<https://edition.cnn.com/2020/04/23/media/youtube-videos-pandemic/index.html>

Brian Stelter - Born: 3-Sep-1985 Birthplace: Damascus, MD

<https://www.nndb.com/people/600/000403388/>

Religion: Methodist [1] [1] Will raise their daughter Jewish. <https://www.nndb.com/lists/875/000071662/>
Executive summary: Reliable Sources

Brian,

Recently saw two of your interviews with YOUTUBE CEO

Susan Diane Wojcicki - Jewish - <https://www.nndb.com/lists/875/000071662/>

(Sister: Anne E. Wojcicki (b 28-Jul-1973, m. Sergey Brin) -

Husband: Dennis Troper (Google executive, m. 1998, four children) -

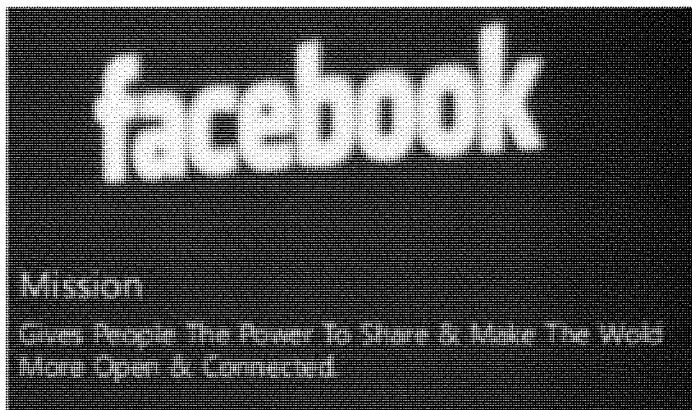
I found it interesting that when she mentioned that Hand=Washing Videos were the newly popular Videos on YTube. Especially, when neither you or she took the opportunity to warn people about avoiding washing your hands with Methanol based hand sanitizers (a substance that can be toxic & life threatening when absorbed through the skin or ingested) hand sanitizers consumers should not use -

The List -

<https://www.fda.gov/drugs/drug-safety-and-availability/fda-updates-hand-sanitizers-consumers-should-not-use?fbclid=IwAR0vJADwZtDT7UObbhpsp3CFQossakzbaTVWgVXFx4iNOAwQQiGTT4QL7S0>

Meanwhile, I attach some internet links for you to investigate, possibly for your show reportage. Thanks Brian. Say hello to Jeff for me (the little man with the big ideas)... Regards,

(b)(6)



Facebook gives people the power to share... Founded in 2004, Facebook's mission is to give people the power to build community and bring the world closer together. People use Facebook to stay connected with friends and family, to discover what's going on in the world, and to share and express what matters to them.

(unless it's not mainstream news of course -)

WHILE

YouTube:



If You Disagree with the World Health Organization (WHO)
----- **We're Pulling Your Content**

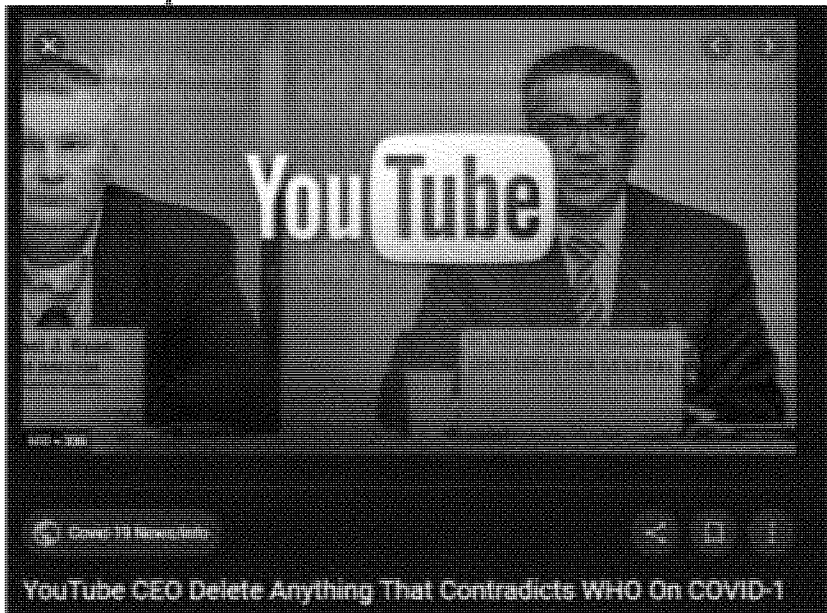
Even though the World Health Organization failed the globe, YouTube has decided to trust their guidelines and recommendations. In fact, the social media platform is pulling any and all Wuahn coronavirus content that isn't "authoritative" or comes directly from leading health care organizations.

<https://townhall.com/tipsheet/bethbaumann/2020/04/21/seriously-youtube-is-now-going-to-bat-for-the-world-health-organization-n2567376>

Townhall

Senator Marsha Blackburn tweeted that “[i]t is alarming that [YouTube] now relies on the [WHO]’s biased recommendations to decide what video content to take down.”

“The [WHO] gave inaccurate information about the spread of the virus, still parrots Chinese propaganda, and fought [President Donald Trump]’s China travel ban,” the junior senator from Tennessee pointed out.



YouTubeCEO: Gender inequality still a problem-

<https://www.youtube.com/watch?v=phOUYes6U5Q>



YouTube CEO: Wojcicki -TransGender inequality "also" still a problem, PT2

<https://www.youtube.com/watch?v=btsLZJw526A>



TRANSVESTIGATION , Oprah Winfrey

<https://www.youtube.com/watch?v=zGKCqmd8dXs>

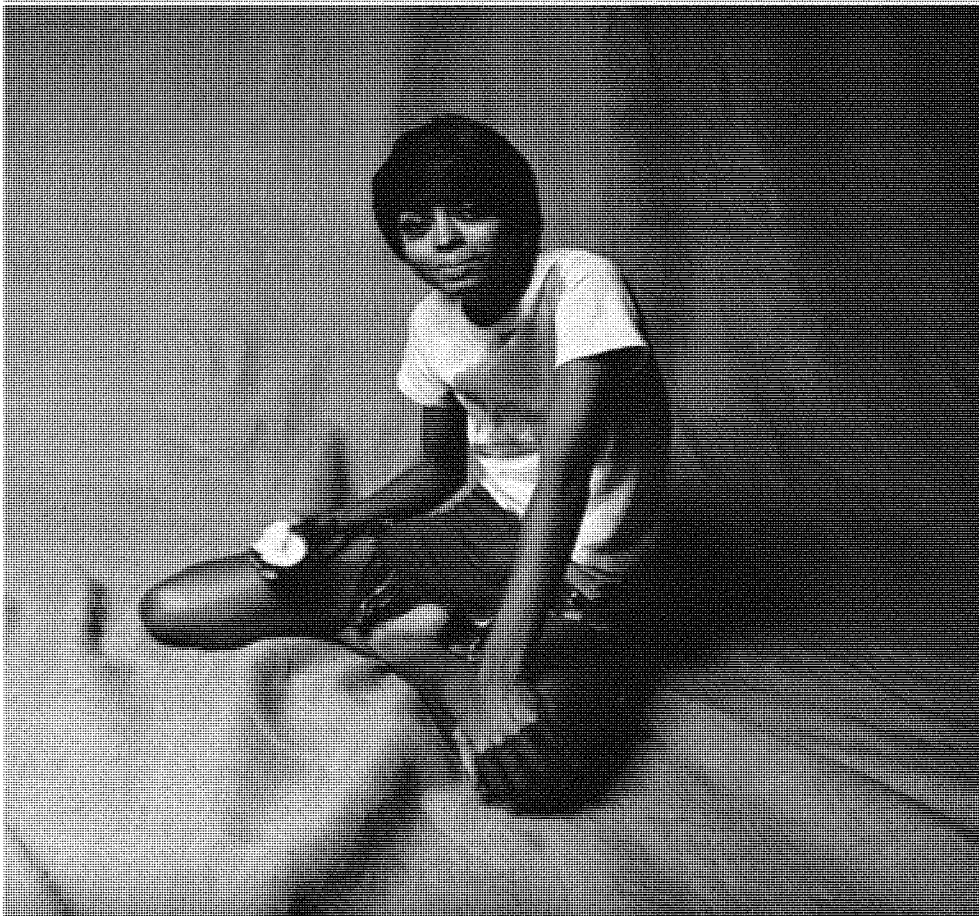




TRANSVESTIGATION - Diana Ross

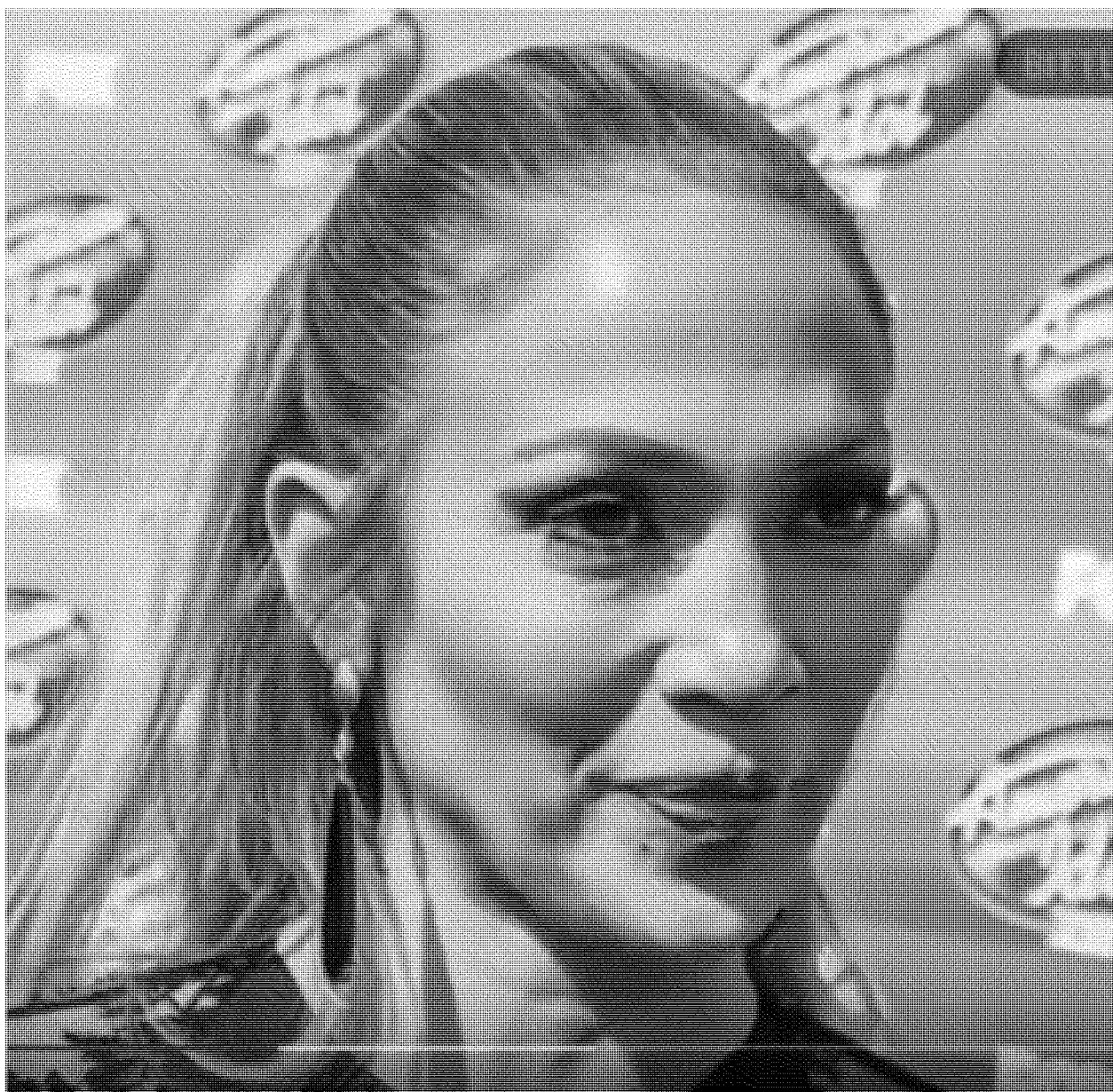
<https://youtu.be/lZhhdIFmD5c?list=PLcruaaY3NeW2WwSTbedpIQdCxRVUfpjkQ>

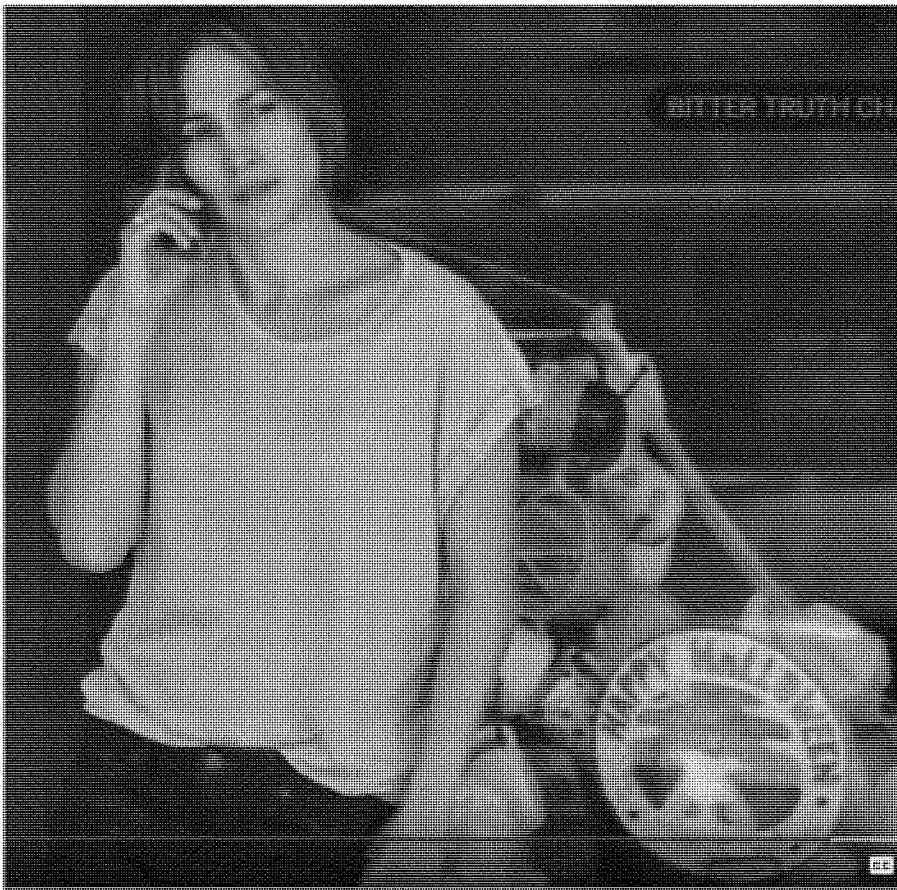
--Body Pose 18:00 hrs-----=-----3x6 = 18 = 666--



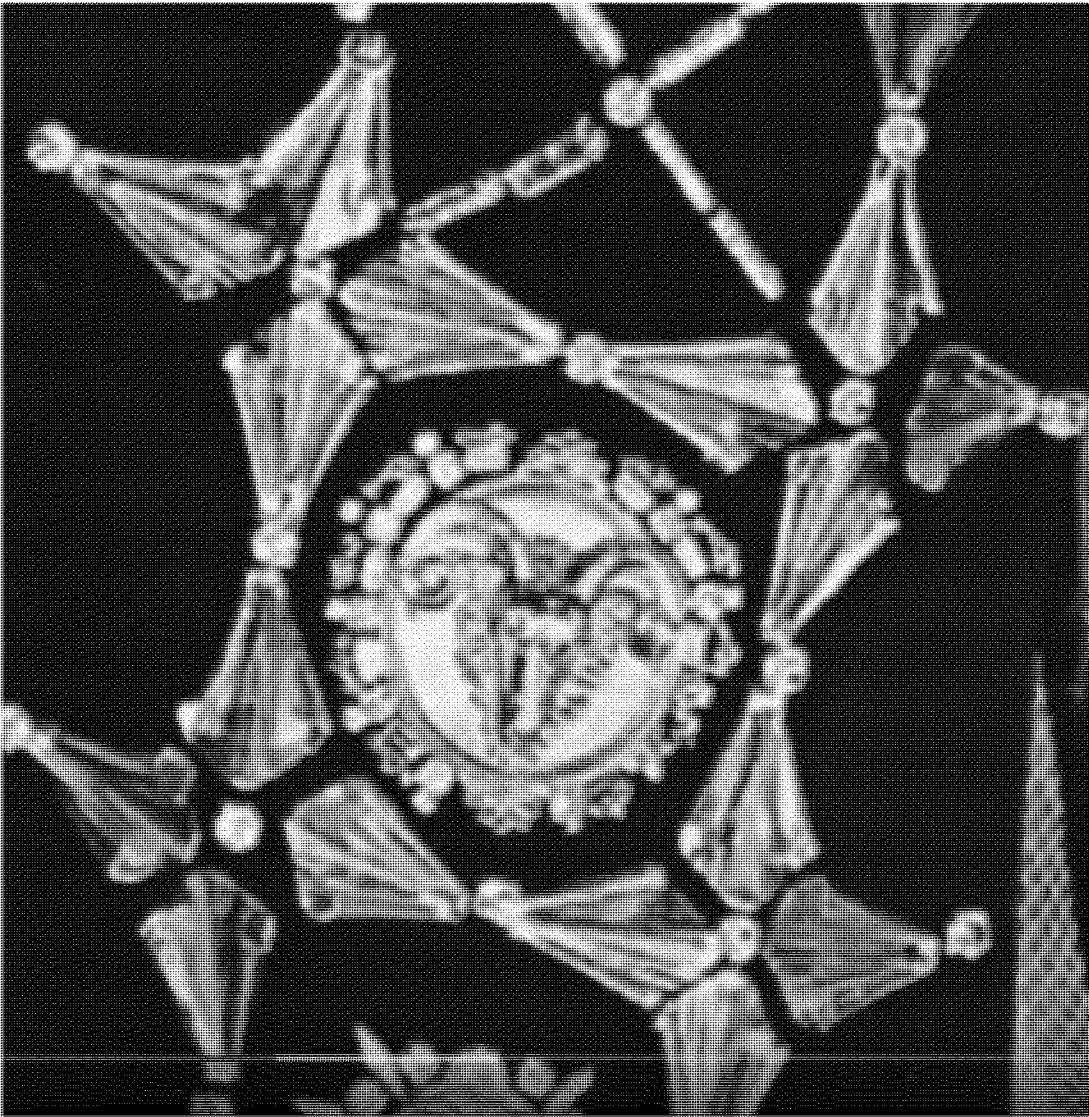
TRANSVESTIGATION:- Jennifer Lopez

https://www.youtube.com/watch?v=hk9_jrjkRug



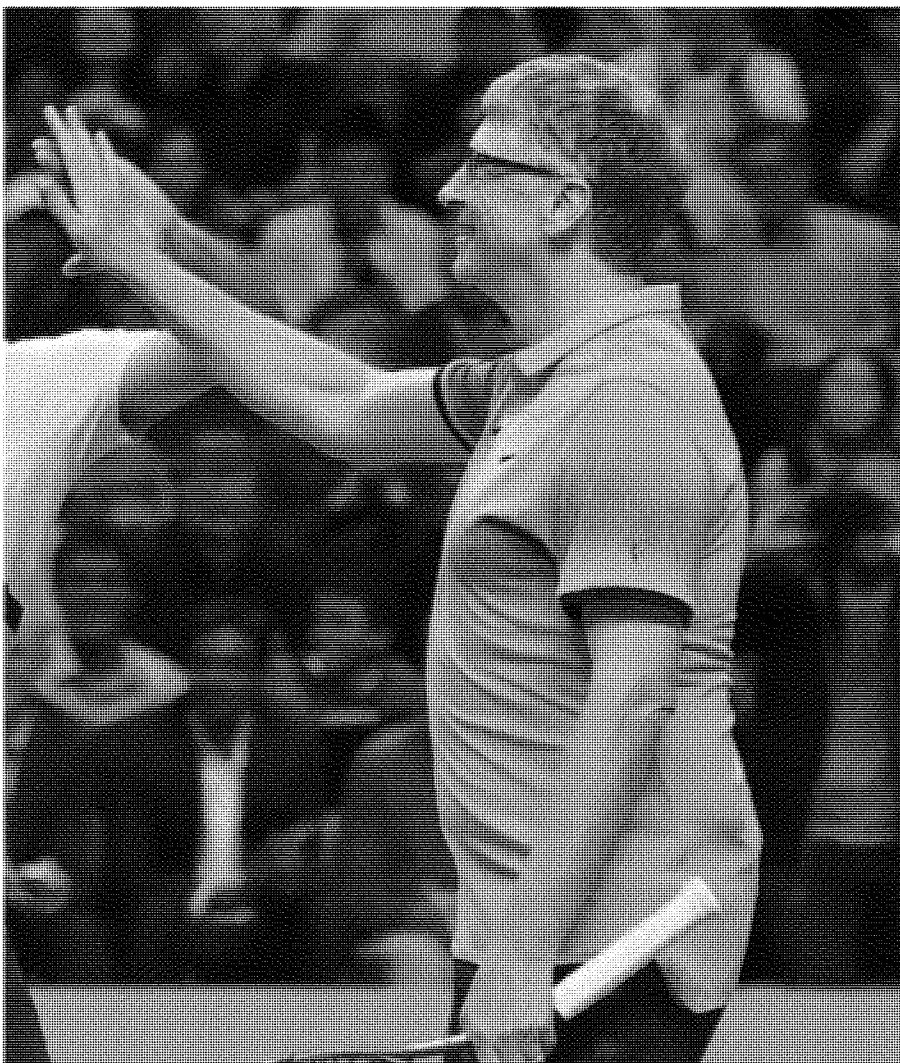






BAPHOMET RULES

Bill Gates, shows off his natural arch in back



TRANSVESTIGATION :Bill Gates

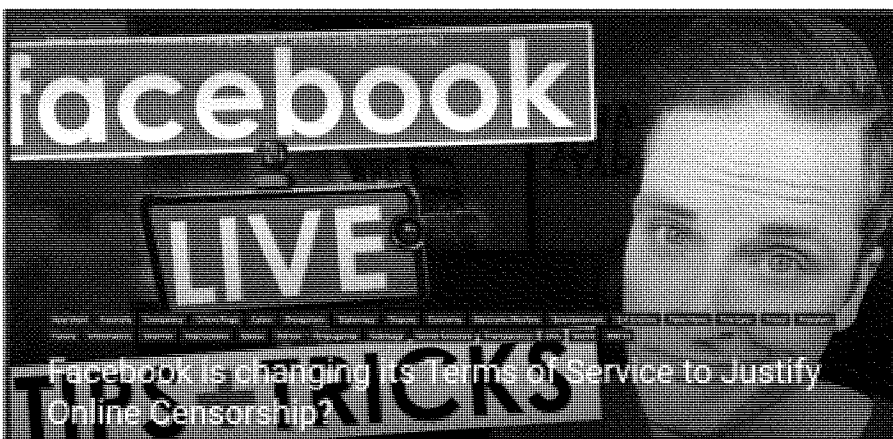
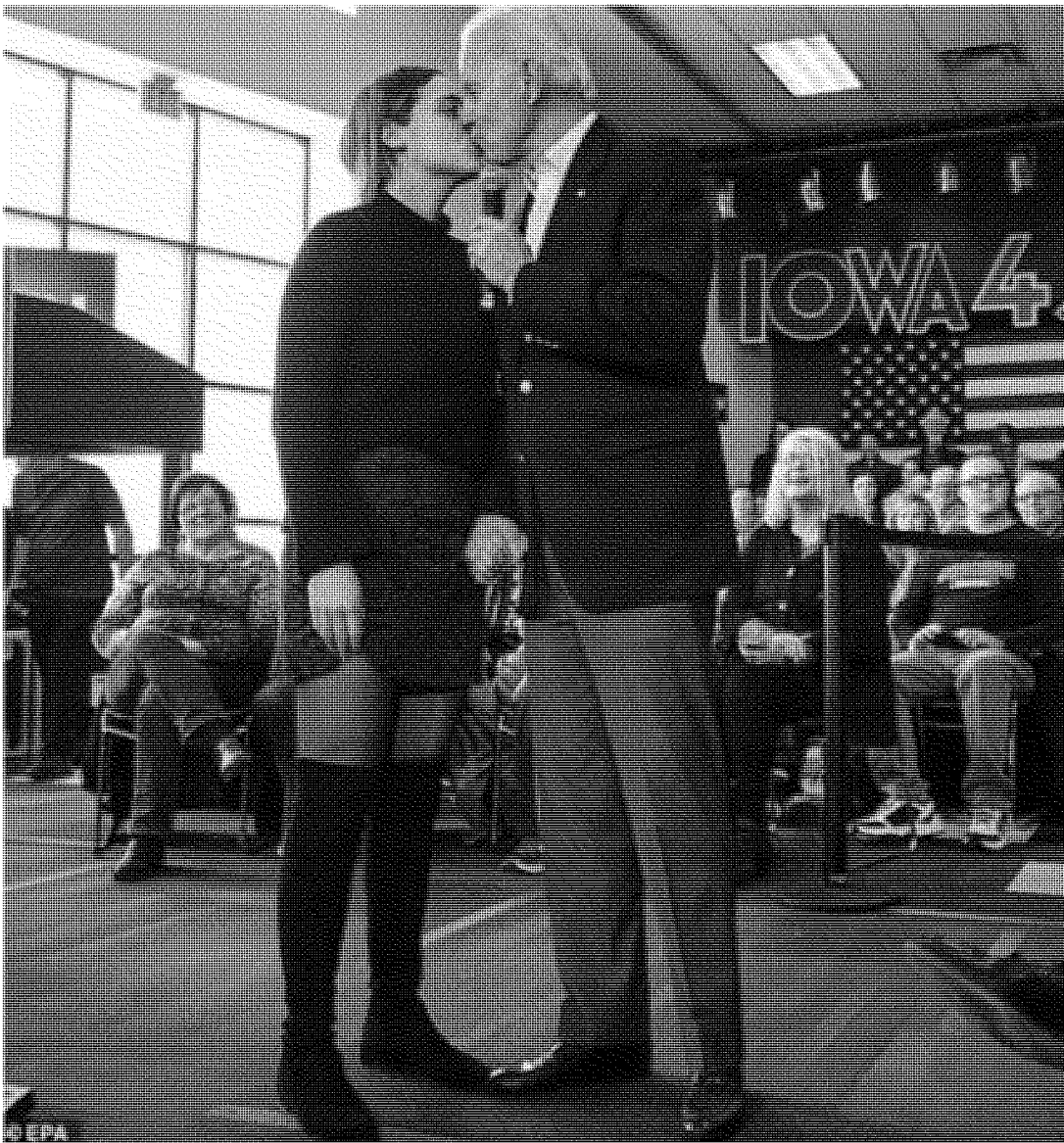
<https://www.youtube.com/watch?v=qONhZNmNEpY>



Mr Orange (33) - Uncle Joe @MeToo Exposed

<https://www.youtube.com/watch?v=Ngb-eRjSzx4&list=PL8esbL3NiO4T2XZnrBNLuJQI8GwpadTED&index=133&t=0s>





(Get Ready for the Fall) - & why Facebook is changing its Terms of Service -
<https://www.youtube.com/watch?v=9TOYf678Ru8>



Coronavirus Act 2020

CHAPTER 7

United Kingdom - Coronavirus Act 2020 -

The Coronavirus Act 2020 (c. 7) is an Act of the Parliament of the United Kingdom that grants the government emergency powers to handle the COVID-19 pandemic. The Act allows the government the discretionary power to limit or suspend public gatherings, to detain individuals suspected to be infected by COVID-19.

Areas covered by the Act include the National Health Service, social care, schools, police, Border Force, local councils, funerals and courts.

The Act was introduced by the Secretary of State for Health and Social Care, Matt Hancock,



https://en.wikipedia.org/wiki/Matt_Hancock who is also a member of the World Economic Forum - <https://www.weforum.org/people/matt-hancock>

on 19 March 2020, and passed all remaining stages of consideration in the House of Commons on 23 March without a vote and passed the House of Commons without a vote on 23 March, and the House of Lords on 25 March. The Act subsequently received royal assent on 25 March 2020.

The provisions of the Coronavirus Act, which are time-limited for two years the government has stated that these powers may be "switched on and off" according to the medical advice it receives.

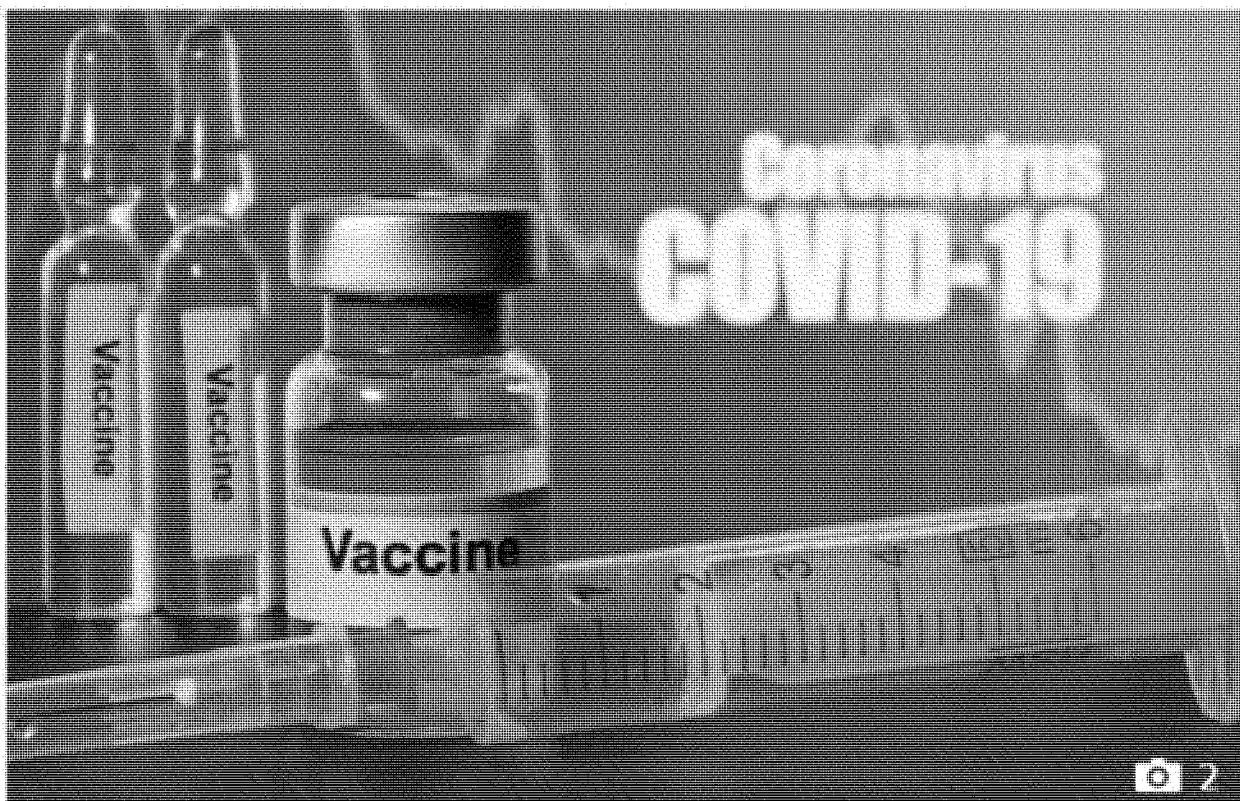
---Commentator Ian Dunt labelled the Act the "most extensive encroachment on British civil liberties ... ever seen outside of wartime". The human rights pressure group Liberty called for closer scrutiny of the bill, raising concerns that significant restrictions on civil liberties could remain in place beyond the end of the pandemic.

---Conservative MP and former Brexit Secretary David Davis tabled an amendment on 21 March to restrict the time limit of the bill to a "brick-wall stop" of one year, threatening a backbench rebellion. Conceding to concerns from both Conservative and Labour MPs over infrequent parliamentary scrutiny, on 23 March the government itself amended the bill to require parliamentary renewal of its powers every six months

https://en.wikipedia.org/wiki/Coronavirus_Act_2020

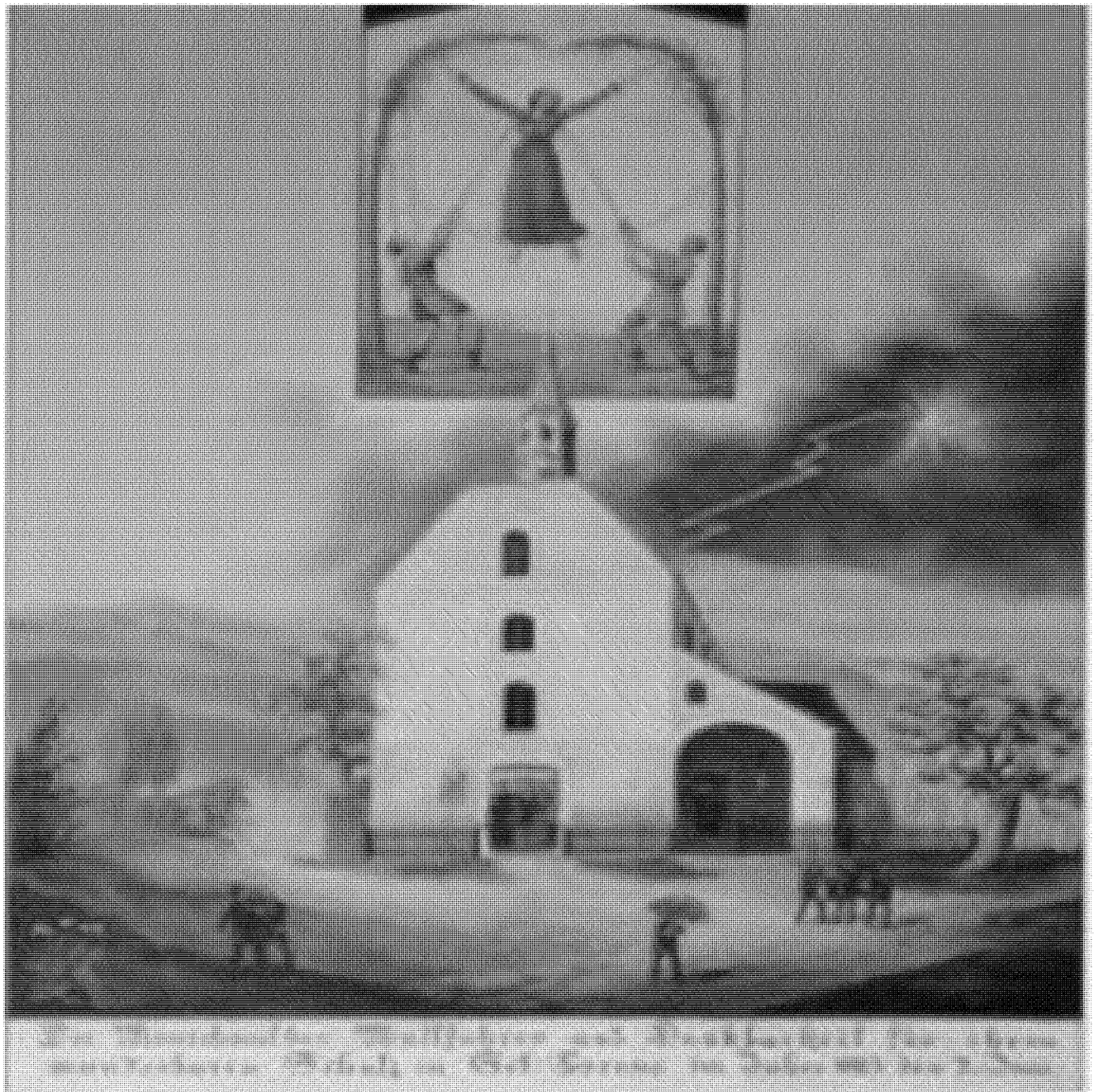
<https://www.politics.co.uk/information/editorial-contacts>

DENTISTS, paramedics and even vets could be giving Brits a new Covid vaccine as early as October, officials have revealed.



The vaccine would be given to health workers first Credit: Reuters

<https://www.thesun.co.uk/news/12526472/brits-coronavirus-vaccine-october-dentists-vets-administer-jab/>



The image of St. Corona above the high altar and the Way of the Cross, which were both restored following a renovation in 2019 in the St Corona Church, in Austria.

Image Credit: <http://www.pfarre-stcorona.at/stc/die-pfarrkirche/>

St. Corona, tied between two palm trees bent to the ground that were released to tear her apart.

The word "corona" is Latin for crown.

Ironically, St. Corona is considered as one of the patron saints of pandemics sufferers.

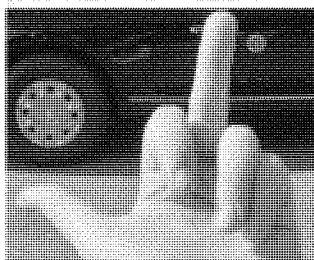
<https://gulfnews.com/world/meet-st-corona-the-patroness-of-plagues-and-pandemics-1.1584521800786>

the first "vaccine" for smallpox was administered by a Freemason*, Edward Jenner, on May 14th, 1796.

May 14th just happens to be the feast day for St. Victor and St. Corona.

<https://hawkeye134.blogspot.com/>

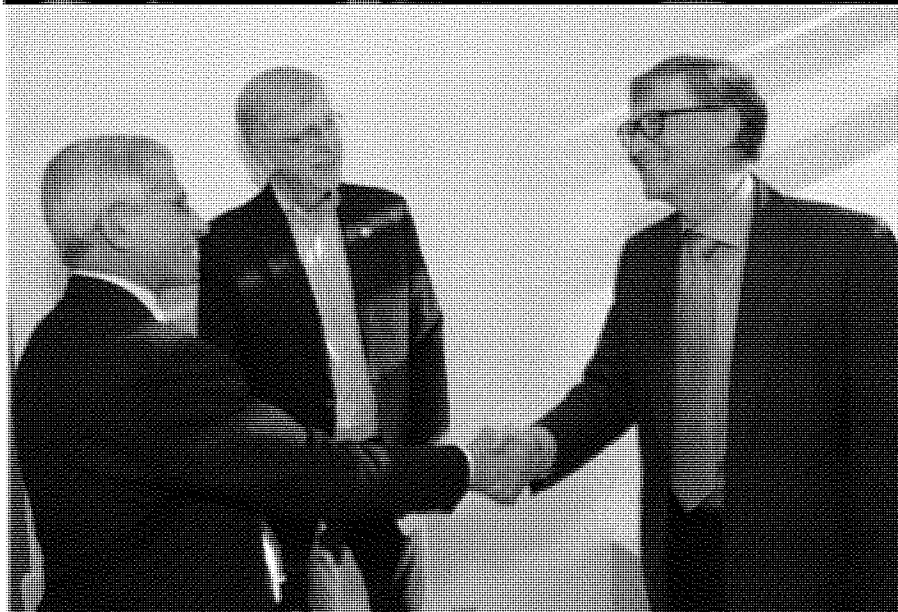
Cats, Corona & Contagion



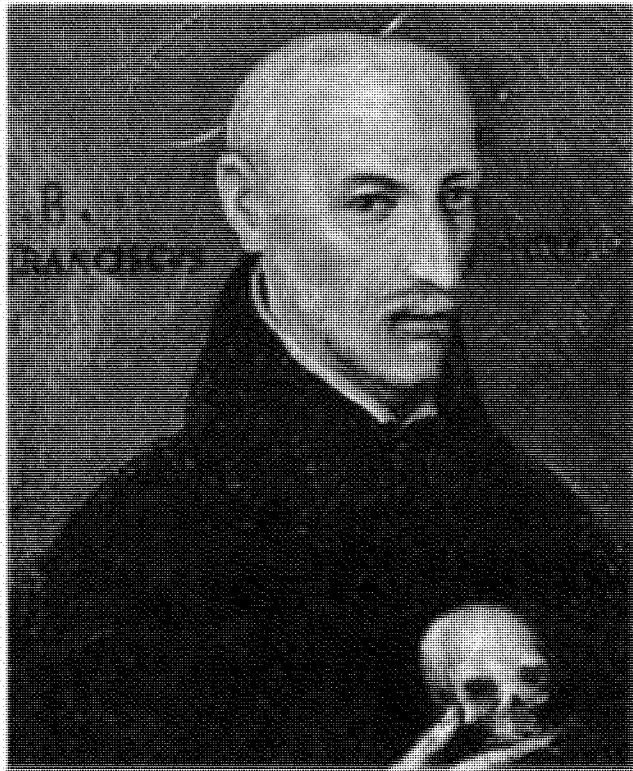
HELL IS EMPTY
AND
ALL THE DEVILS
ARE HERE

WILLIAM SHAKESPEARE









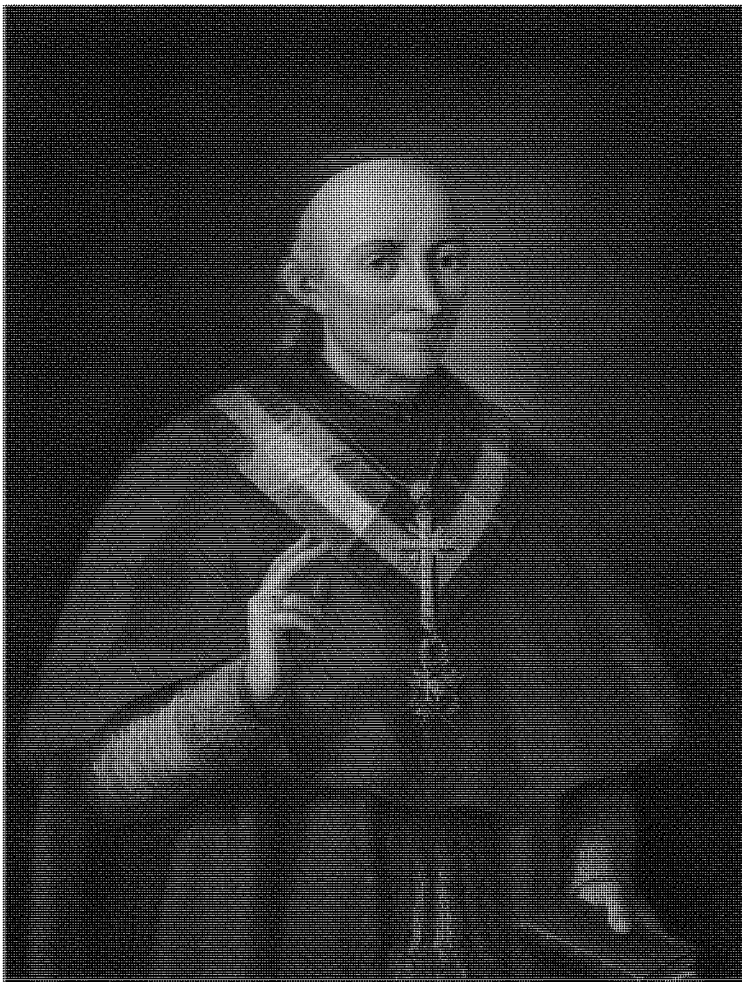
Portrait of a Jesuit Saint: San Francisco de Borja, 1726



The merited odium which has overtaken the Inquisition, usually officered by Dominicans, has induced the Jesuits, whose own controversial method has for the most part been different, to disclaim all connection with that tribunal, and to represent their society as free from complicity in its acts. But, in truth, it was Ignatius Loyola himself who procured its erection in Portugal in 1545-6, and F. Nithard, one of the very few cardinals of the society, was inquisitor-general of that kingdom in 1633.

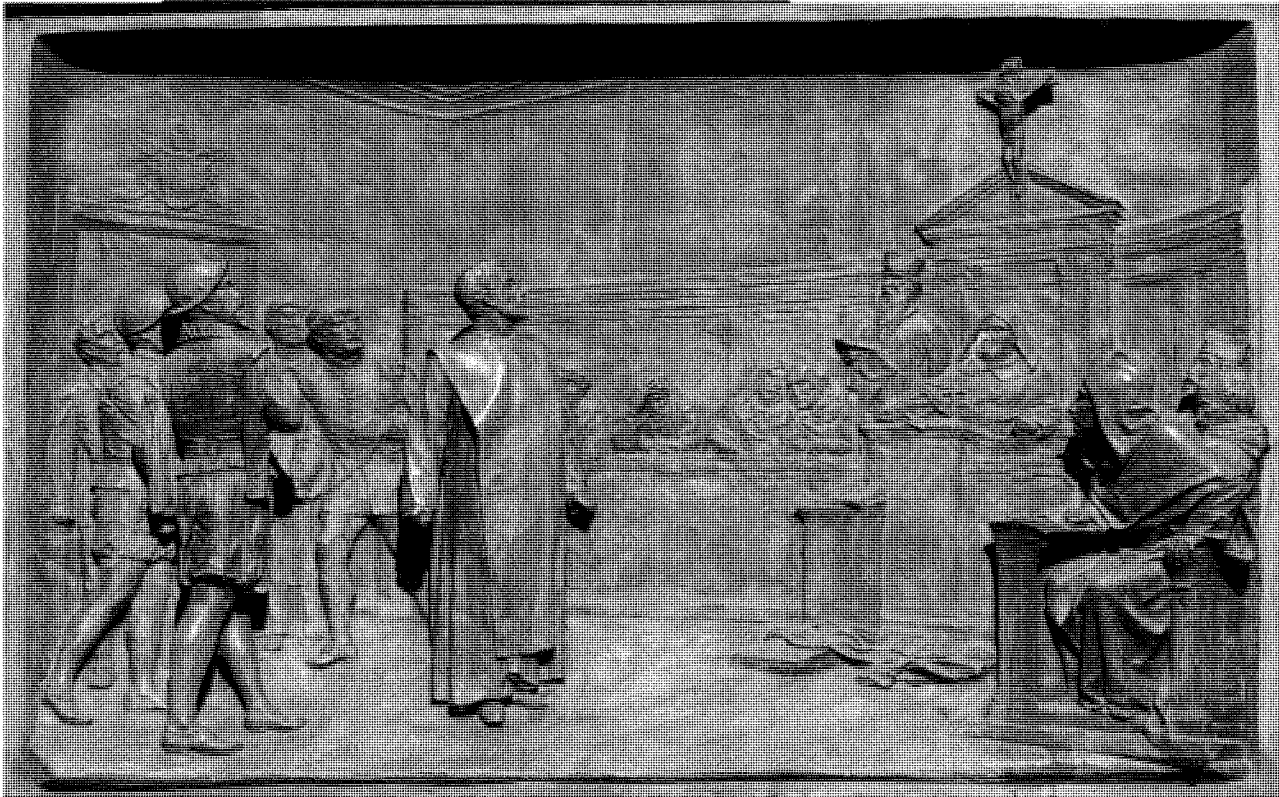
The Founder of the Society of Jesus (Jesuit) Ignatius de Loyola himself procured its [the inquisition] erection in Portugal in 1545-6 (The Encyclopaedia Britannica: A Dictionary of Arts, Sciences, Volume 13)

Photo:- Jesuit Francisco Antonio de Lorenzana, Grand Inquisitor of Spain (1794–1797) - https://en.wikipedia.org/wiki/Francisco_Antonio_de_Lorenzana



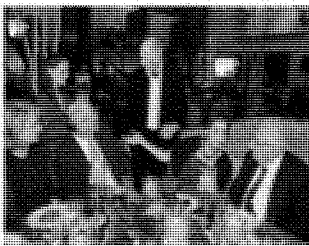
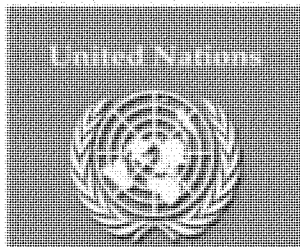


Pope Clement made him a Cardinal Inquisitor, in which capacity he served as one of the judges at the trial of Giordano Bruno, [https://en.wikipedia.org/wiki/Giordano Bruno](https://en.wikipedia.org/wiki/Giordano_Bruno) and concurred in the decision which condemned Bruno to be burned at the stake as a

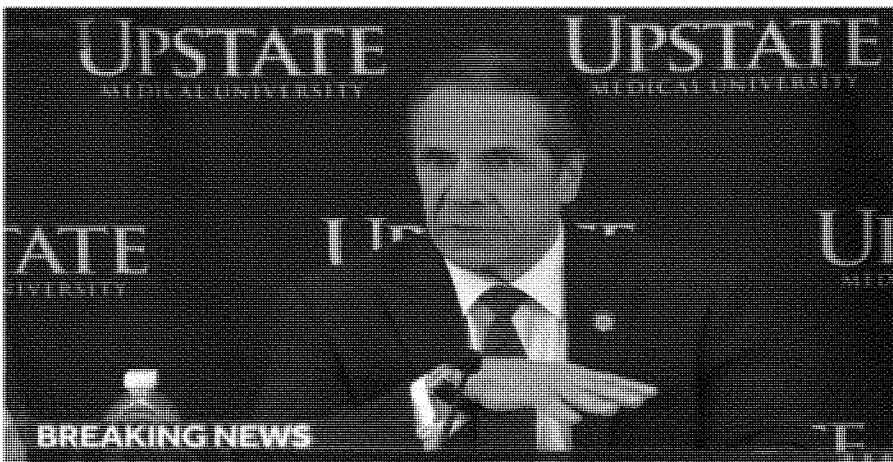


Pope Francis the Jesuit Pope & promoter of the World Lockdown in 2020 with UN Chief António Manuel de Oliveira Guterres .

Remarks by His Holiness The Jesuit Pope Francis and fellow Roman Catholic , United Nations Secretary-General António Guterres - <https://www.youtube.com/watch?v=CePSM3QMkEQ>



UN = World Government / Jacob Rothschild standing, Kissinger seated right.



Jesuit Coadjutor, Andrew Mark Cuomo flattening the curve ,
<https://www.youtube.com/watch?v=m8nCjNk3djc>

Andrew Mark Cuomo born December 6, 1957)
 Roman Catholic

<https://www.nndb.com/lists/758/000094476/>
 Executive Summary:- Corona Virus Hoaxer

During his governorship, Cuomo oversaw the passage of a law legalizing same-sex marriage in New York; creation of the United States Climate Alliance, a group of states committed to fighting climate change by following the terms of the Paris Climate Accords; passage of the strictest gun control law in the U.S.; His parents were both of Italian descent; his paternal grandparents were from Nocera Inferiore and Tramonti in southern Italy, while his maternal grandparents were from Sicily His younger brother, Chris Cuomo, is a CNN journalist.

Andrew graduated from Roman Catholic St. Gerard Majella's School in 1971 a private Roman Catholic elementary school <https://www.privateschoolreview.com/st-gerard.../11423> and Archbishop Molloy High School in 1975 in Brooklyn NY https://en.wikipedia.org/wiki/Archbishop_Molloy_High_School He received a B.A. from Jesuit Fordham University in 1979, https://en.wikipedia.org/wiki/Fordham_University Cuomo will not release state death lists, nor did he order autopsies in this public health emergency as required!



Chris Cuomo

Jesuit Coadjutor, Chris Cuomo

AKA Christopher Charles Cuomo

Born: 9-Aug-1970

Birthplace: Queens, NY

Gender: Male

Religion: Roman Catholic

Race or Ethnicity: White

Sexual orientation: Straight

Occupation: Journalist

Nationality: United States

Executive summary: Co-Host, CNN New Day (Corona Virus Hoaxer)

Father: Mario Cuomo (Governor of New York, b. 15-Jun-1932, d. 1-Jan-2015)

Mother: Matilda Raffa

Sister: Margaret I. Cuomo

Brother: Andrew Cuomo (Governor of New York, b. 6-Dec-1957)

Sister: Maria Cuomo (m. Kenneth Cole)

Sister: Madeline Cuomo

Wife: Cristina Greeven (m. 24-Nov-2001, two daughters, one son)

Daughter: Bella

Daughter: Carolina Regina (b. 2011)

Son: Mario (b. 2005)

High School: The Albany Academy

University: BA, Yale University

Law School: JD, Fordham University (1995) (jesuit)

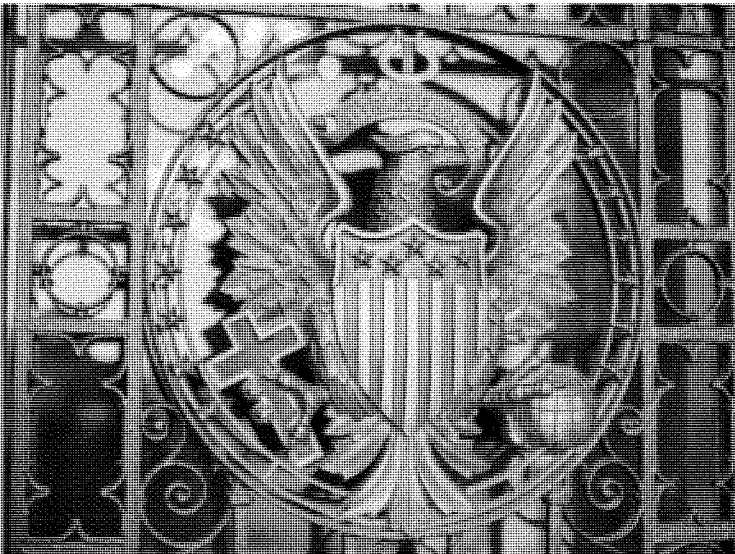


The Dark Side of Andrew Cuomo finally exposed

<https://www.bitchute.com/video/EnV06Fabkq6Z/>



(b)(6)



This email has been checked for viruses by Avast antivirus software.
www.avast.com

--

From: (b)(6)
Sent: 9/8/2020 3:44:57 AM
To: brian.stelter@turner.com; David Jason Muir [David.Muir@abc.com]
CC: Brian.Rose@londonreal.tv; Kilmeade, Brian [Brian.Kilmeade@foxnews.com]; brian.jones@foxnews.com; Brian.Bennett@latimes.com; Guy.Benson@townhall.com; Jonathan.Garthwaite@townhall.com; Katie.Pavlich@townhall.com; Judge Judy [Jeanine.Pirro@FOXNEWS.COM]; Susan Michie [s.michie@ucl.ac.uk]; Professor Sir David Clary [david.clary@magd.ox.ac.uk]; John Penrose [beauperec@parliament.uk]; Diana Mary Harding. [contactholmec@parliament.uk]; Susan Diane Wojcicki [SGWEG@slac.stanford.edu]; adrienne.bankert@abc.com; tkoyama@us.ibm.com; Julian.Reichelt@bild.de; dolorescahill@gmail.com.; pressoffice@ruptly.tv; andreas.geisel@spd.parlament-berlin.de; Nancy.Harmeyer@foxnews.com; marianna.spring@bbc.co.uk; mark.woolhouse@ed.ac.uk; brian.rose@londonreal.tv; Dana Kozlov [dakozlov@cbs.com]; Brad Edwards [baedwards@cbs.com]; John Bel Edwards [govpress@la.gov]; David Edwards Raw Story [david@rawstory.com]; Richard M Novak MD [rmnovak@uic.edu]; Brett P. Giroir [ASH@hhs.gov]; Alex Azar II [secretary@hhs.gov]; Azar, Alex (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4db7abd56a7e478883f5cd8e2e8a18d3-HHS-Alex.Az]; Giroir, Brett (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ee4c4234d3834c77a4a1a7b1a7c176a2-HHS-Brett.G]; Trey.Gowdy@nelsonmullins.com; trey.gowdy@foxnews.com; Harris Kimberly Faulkner [harris.faulkner@foxnews.com]; JMUSTIAN@ap.org; theodore.long@hms.harvard.edu; theodore.long@yale.edu; ted.long@nychealthandhospitals.org; neil.vora@cdc.gov; neil.vora@nychealthandhospitals.org; Kamala Devi Harris [Kamala_Harris@harris.senate.gov]; Kamala Devi Harris [chris_harris@harris.senate.gov]; mediainquiries@cision.com; dharris@stanford.edu; alex.hogan@foxnews.com; BMcCloskey@chathamhouse.org; dheyman@chathamhouse.org.uk; michael.edelstein@doctors.org.uk; LDonaldson@chathamhouse.org; cclift@chathamhouse.org.uk; ranshba@chathamhouse.org; CMunozParry@chathamhouse.org; iain.begg@lse.ac.uk; john.major@chathamhouse.org; jmajor@chathamhouse.org; nicholas.burns@chathamhouse.org; nburns@chathamhouse.org; vchu@chathamhouse.org; victor.chu@chathamhouse.org; Eliza.Manningham-Buller@chathamhouse.org; emanninghambuller@chathamhouse.org; fiona.watt@kcl.ac.uk; fiona.watt@mrc.ukri.org; Elvira.Nabiullina@rdif.ru; Sergei.Ivanov@rdif.ru; Andrey.Belousov@rdif.ru; Maksim.Oreshkin@rdif.ru; Dominique.Strauss-Kahn@rdif.ru; Vladimir.Dmitriev@rdif.ru; Kirill.Dmitriev@rdif.ru; Kirill.Dmitriev@weforum.org; sputnikvaccine@rdif.ru; gintsburg@gamaleya.org; pronin@gamaleya.org; Michelle.Tuzee@abc7.com; marc.brown@abc7.com; lisa.booth@foxnews.com; smilligan@usnews.com; HGodman@usnews.com; Gordon.Robertson@cbn.com; lori.johnson@cbn.com; KGO-TV.Programming@abc.com; press@rosminzdrav.ru; info@rosminzdrav.ru; Kimberly.Hunt@10news.com; leon.clark@10news.com; Doris.Lewis@10news.com; bbloom@hsph.harvard.edu; florian.krammer@mssm.edu; Bai.Yansong@cctv.com; Edward.Law@cctv.com; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; Joel Scott Osteen [press@siriusxm.com]; Victoria L Iloff [advertising@siriusxm.com]; joel@lakewoodchurch.com; Lloyd E Campbell [lcampbell@spencerstuart.com]; Charles Philip Arthur George [fma@weforum.org]; Muriel Elizabeth Bowser [eom@dc.gov]; margaret.satterthwaite@nyu.edu; Andrew Mark Cuomo SJ [Press.Office@exec.ny.gov]; tara.brown@nine.com.au; 60Minutes@nine.com.au; naomi.shivaraman@nine.com.au; tdikeos@nine.com.au; Scott Gottlieb illuminati [info@illumina.com]; Scott.Gottlieb@aei.org; Scott Gottlieb [Brendan.Rascius@aei.org]; steve@apiject.com; jay@apiject.com; Clarisse Mason [masonc@who.int]; David Malpass [DMalpass@ifc.org]; David Wilson [dwilson@worldbank.org]; Mamadi Yilla [yillam2@state.gov]; staff@the-asci.org; grotenfelt.nora@gmail.com; nathalie.macdermott@kcl.ac.uk; producersgroup@rttv.ru; RT-US@rttv.ru; rick.sanchez@rttv.ru; justin@propublica.org; lsullivan@npr.org; prothma1@jhmi.edu; gail.mcGovern@redcross.org; david.meltzer@redcross.org; gail.mcGovern@dteenergy.com; gail.mcGovern@paypal.com; eliot_cohen@jhu.edu; david.rubenstein@jhu.edu; gail.mcGovern@jhu.edu; Mercedes.Lopez-Blanco@archny.org; Timothy.Dolan@archny.org; Robert.t.Ritche@archny.org; Ed.Dougherty@archny.org; Donald.Haggerty@archny.org; Wolf Isaac Blitzer [wolf.blitzer@turner.com]; Alison.Morris@nbcuni.com; contact@unwomenforpeace.org; Conchita.Sarnoff@conchitasarnoff.com; Emily.Maitlis@bbc.co.uk; David.Grossman@bbc.co.uk; Imenninger@hmflaw.com; mcohen@cohengresser.com; Susanna.Reid@itv.com; piers.morgan@itv.com; Thomas J Kavalier [tkavalier@cahill.com]; news@highlandscurrent.org; jmeisner@tribune.com; eva.pilgrim@abc.com; jc2287@cumc.columbia.edu; mblabate@cicu.org; Kadlec, Robert P (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=70539a2f88924cc8913781ea74278b12-HHS-Robert.]; Azar, Alex (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4db7abd56a7e478883f5cd8e2e8a18d3-HHS-Alex.Az]; Stanley.Erck@novavax.com; ir@novavax.com; umihighereducation@jesuits.org; Ellison.Barber@nbcuni.com;

emily.badger@nytimes.com; Vernon Coleman [press@vernoncoleman.com]; boris.johnson@weforum.org; Anthony Charles Lynton Blair [info@institute.global]; tony.blair@weforum.org; melanie.walker@weforum.org; mwalker@gatesfoundation.org; BNikolic@gatesfoundation.org; David.Malpass@worldbank.org; Melanie.Walker@ama-assn.org; rachel.scott@abc.com; c.whitty@nhs.net; Andrew.Witty@uhg.com; patrick.vallance@number10.gov.uk; Sir Patrick Vallance [info@acmedsci.ac.uk]; David_S_Wichmann@uhc.com; Ken.Ehlert@uhc.com; Dirk_McMahon@uhc.com; mediacontact@questdiagnostics.com; Hinton, Denise [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=85feca0be0694803be6030e97c7b4adb-HINTOND]; Stephen.Hemsley@uhg.com; hemsleyc@fordhamprep.org; tribe@law.harvard.edu; triversr@gmail.com; ders@law.harvard.edu; lawrence_summers@hks.harvard.edu; lindsay_jones@hks.harvard.edu; enew@fas.harvard.edu; elisa.new@poetryinamerica.org; Boris.Nikolic@twistbioscience.com; customersupport@twistbioscience.com; Boris.Nikolic@editasmed.com; info@editasmed.com; boris.nikolic@biomaticscapital.com; Julie.Sunderland@biomaticscapital.com; info@biomaticscapital.com; Andrew.Pollard@ovg.ox.ac.uk; dale.woods@nbcuni.com; deedeemyers@warnerbros.com; Jeremy.Farrar@cepi.net; Joachim.Klein@cepi.net; Bryant, Paula R (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eb42f9318014bbb8c14d39ef311d8f9-HHS-paula.b]; Idro.Seferi@dw.com; sarah.mabrouk@dw.com; pisarna@tanja-fajon.eu; maja.kezunovickrasek@tanja-fajon.eu; Tanja.Fajon@ep.europa.eu; jure.tanko@ep.europa.eu; Sasa.Dragojlo@balkaninsight.com; Aleksandar.Vucic@weforum.org; tanja.fajon@europarl.europa.eu; Michelle Powers Net NY TV [michelle.powers@netny.tv]; Stanley.Plotkin@pennmedicine.upenn.edu; Lisa.Bellini@pennmedicine.upenn.edu; Leonard.Hayflick@ucsf.edu; Marie.Bernard@nih.gov; Gruber, Marion [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=019cd2669c7048f7a116d72b7682de44-gruber]; Jim.Sciutto@turner.com; andrewkaufmanmd@gmail.com; Jenny Anne Durkan [jenny.durkan@seattle.gov]; Sean Patrick Hannity [sean.hannity@foxnews.com]; kevin.corke@foxnews.com; dan.springer@foxnews.com; VladimirDuthiers [DuthiersV@cbsnews.com]; Vladimir Putin [pr@nm-g.ru]; Vlad [accredit@gov.ru]; Narendra.Modi@pmindia.gov.in; Eric Frederick Trump [etrump@trumporg.com]; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; jfair@tamu.edu; mwelsh@tamu.edu; Ellen.DeGeneres@nbcuni.com; Subha Nagalakshmi Munchetty-Chendriah [Naga.Munchetty@bbc.co.uk]; William Jefferson Blythe III [press@clintonfoundation.org]; Chancellor Hillary Diane Rodham Clinton [comms.office@qub.ac.uk]; Hillary Diane Rodham Clinton [philippe.reines@bgsdc.com]; Joseph Robinette Biden Jr [jbash@bgsdc.com]; Kate.Bedingfield@joebiden.com; Katherine Anne Couric [Katie.Couric@turner.com]; Katherine Jean "Kate" Bolduan [Kate.Bolduan@turner.com]; Linsey.Davis@abc.com; Tom.Llamas@abc.com; Steve Aduato [Mary.Gamba@steveadubato.org]; Heiko Maas [Heiko.Maas@auswaertigesamt.de]; Matt Hancock UK Health Secretary [matt.hancock@weforum.org]; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@georgetown.edu; John.DeGioia@weforum.org; Tania.Tetlow@loyno.edu; julia.macfarlane@abc.com; emma.gormley@itv.com; thismorning@itv.com; The Rt Hon Boris Johnson MP [press@number10.gov.uk]; Alexander Boris de Pfeffel Johnson [boris.johnson.mp@parliament.uk]; Alisyn.Camerota@turner.com; Alison.Morris@nbcuni.com; Ron DeSantis [media@eog.myflorida.com]; Sadiq Khan [admin@revolvingdoors.org.uk]; His Worship S Khan [dexter@dexterhenry.co.uk]; His Eminence Timothy Cardinal Dolan [maryellen.oconnor@archny.org]; Craig Melvin [Craig.Melvin@nbcuni.com]; Shannon Cake [scake@wptv.com]; NHogensen@scripps.com; Gregory Wayne Abbott [Press@GregAbbott.com]; Alfred Charles Sharpton Jr. [media@nationalactionnetwork.net]; Jennifer Mayerle [jlmayerle@wcco.com]; Jens.Spahn@weforum.org; Daniel.Funke@burda.com; Eckart.Bollmann@burda.com; hubert.burda@burda.com; matt.weiss@burda.com; Philipp.Welte@burda.com; Klaus Schwab [Klaus.Schwab@weforum.org]; friede.springer@axelspringer.com; Mathias.Doeppfner@axelspringer.com; MDoeppfner@netflix.com; Borge Brende [Borge.Brende@weforum.org]; Kristalina Ivanova Georgieva-Kinova [Kristalina.Kinova@weforum.org]; Al Gore [al.gore@weforum.org]; David M Rubenstein [david.rubenstein@weforum.org]; Heizo Takenaka [Heizo.Takenaka@weforum.org]; Jack Ma [jack.ma@weforum.org]; Matt.Damon@weforum.org; yann.zopf@weforum.org; Zhu Min [Zhu.Min@weforum.org]; forumusa@weforum.org; Lester Don Holt Jr [Lester.Holt@nbcuni.com]; Dr. Pampee Young [media@redcross.org]; brian.stelter@turner.com; fns@foxnews.com; Foxnewssunday2@FOXNEWS.COM; Thomas V Inglesby MD [tinglesby@jhu.edu]; Prof Charles D Todd [ctodd@jhu.edu]; Charles David Todd [chuck.todd@nbcuni.com]; Paul B Rothman MD John Hopkins [crothman@jhu.edu]; Eliot A Cohen [ecohen@jhu.edu]; media@gatesfoundation.org; tvstudio@who.int; lindmeierch@who.int; SalisburyM@who.int; GhebreyesusT@who.int; Joe.Scarborough@nbcuni.com; Gina.Kolata@nytimes.com; stanley@stanleyjohnson.org; hannah.beer@curtisbrown.co.uk; mara.gay@nytimes.com; maggie.haberman@nytimes.com; editor@churchmilitant.com; michael.voris@churchmilitant.com; lawrence.Gostin@weforum.org; Lawrence Oglethorpe Gostin [gostin@law.georgetown.edu]; douglas.emhoff@dlapiper.com; beth.daley@theconversation.com; m.w.calnan@kent.ac.uk; m.n.wass@kent.ac.uk; M.Michaelis@kent.ac.uk;

Madeleine.Rivera@foxnews.com; Geraldo.Rivera@foxnews.com; JDeGioia@carnegie.org; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@weforum.org; John.DeGioia@georgetown.edu; Matteo Bruni [Matteo.Bruni@vatican.va]; Alexander.Gintsburg@rdif.ru; Alina.Kabaeva@nm-g.ru; Andrey.Belousov@rdif.ru; Kirill.Dmitriev@rdif.ru; Kruglova Anna M. [amkruglova@rttv.ru]; Maksim.Oreshkin@rdif.ru; Mikhail Albertovich Murashko [NabatovaEA@rosminzdrav.ru]; Nogaeva Oksana G. [ognogaeva@rttv.ru]; ministry@mid.ru; press@rosminzdrav.ru; Dr. Margaret Chan Director General of WHO [chanm@who.int]; Jane Pauley [PauleyS@cbsnews.com]; Susan Zirinsky [SusanZ@cbsnews.com]; Martha Teichner [TeichnerM@cbsnews.com]; Brown, Jeremy (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6e502731145c4045b5e088df526a710b-HHS-jeremy.]; nina.shore@nih.gov; Ward, Jackie M (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9195352dc4c040ca9e98a5434f9b0cca-HHS-jackie.]; Gareth Genner [Gareth.Genner@truststamp.ai]; christoph.jumpelt@dw.com; Karl.Juesten@dw.com; Vicky.Nguyen@nbcuni.com; Constanze.Stelzenmueller [CStelzenmueller@brookings.edu]; sburnett@ap.org; Helge.Braun@bundesregierung.de; Angela.Merkel@bundestag.de; Horst.Seehofer@bundestag.de; andreas.scheuer@bundestag.de; Jens.Spahn@bundestag.de; stefan.kaufmann@bundestag.de; Heiko.Maas@bundestag.de; Helge.Braun@bundestag.de; Helge.Braun@bundeskanzlerin.de; Christine.Lambrecht@bundestag.de; Olaf.Scholz@bundestag.de; Wolfgang.Schauble@bundestag.de; Steffen.Seibert@bpa.bund.de; ulrike.demmer@bpa.bund.de; martina.fietz@bpa.bund.de; Margaret.Chan@Weforum.org; pierre.thomas@abcnews.com; David.Muir@abc.com; matt.gutman@abcnews.com; dmitry.chernychenko@gazprom-media.com; dmitry.chernychenko@gazprom-media.com; Linda@TedNugent.com; Ted@TedNugent.com; Dianne Goldman Berman Feinstein [senator_feinstein@feinstein.senate.gov]; adam_russell@feinstein.senate.gov; ashley_schapl@feinstein.senate.gov; ian.dunt@politics.co.uk; Vanessa.Kortekaas@ft.com; Christopher.Ruddy@newsmx.com; Michelle.Malkin@newsmx.com; darren.beattie@hudson.org; heather.nauert@hudson.org; douglas.feith@hudson.org; lewis.libby@hudson.org; leerservice@funkemedien.de; Ove.Saffe@funkemedien.de; Andreas.Schoo@funkemedien.de; matt.murray@wsj.com; Michael.Wueller@wsj.com

Subject: Dave: Brian- yr Bill & Mel Iview - "Davos Man," YouTube Ceo Wojcicki, Mr Orange Uncle Joe exposed, Cats, Freemasons, Feast Day Saint Corona & Hulda Clark



David Muir Exclusive with Bill and Melinda Gates on Coronavirus

Bill & Mel Gates talk CoronaVirus with lots of Nervous handwringing gestures, Pushing Masks & Vaccines on the dumb masses - Nothing will go back to normal until we have the vaccine , says Dr. Gates -

<https://www.youtube.com/watch?v=7ljBjmVMTSk>

To: **David Jason Muir** c/o ABC broadcast-television network, based in New York City

Hi Dave,

Ran across your interview of Bill Gates recently which I found very interesting,

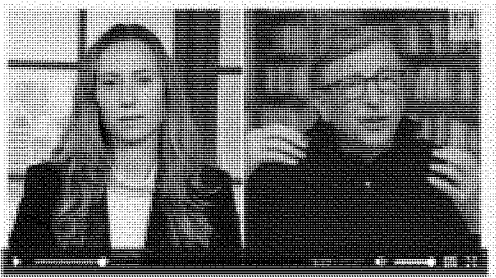


David Muir Exclusive with Bill and Melinda Gates on Coronavirus

Bill & Mel Gates talk CoronaVirus with lots of Nervous handwringing gestures, Pushing Masks & Vaccines on the dumb masses - Nothing will go back to normal until we have the vaccine , says Dr. Gates -

<https://www.youtube.com/watch?v=7ljBjmVMTSk>

Here in this Video Clip, Doctor Gates stresses:



"You don't have a choice, people act like you've got a choice, NORMALCY ONLY RETURNS, when we've largely inoculated the entire global population" .

<https://www.youtube.com/watch?v=PmuE2YeDsOM>

If you look at these other interviews of Bill Gates you will notice the compulsory disorder of constant wringing , gestulating hand movements which to be honest are quite irritating and a bit neurotic and reminded me of a book I read recently and which I recommend:-

Why People Followed Hitler

https://link.springer.com/chapter/10.1007%2F978-1-4899-6084-9_5

I would like to attach a few links for you and your expert news production team to investigate to see if they are newsworthy for your reportages or not.

Thanks Dave. Wishing you all the best, (b)(6)

If you note the following attached interviews of Bill Gates, are of interest just to compare when the wild hand gestures began and to put these in perspective.

Davos Annual Meeting 2008 - a youthful "Davos Man" - Bill Gates -



When the World was getting better according to Doctor William H. Gates III, GER, (not much hand wringing or Hitlerian Gestures)

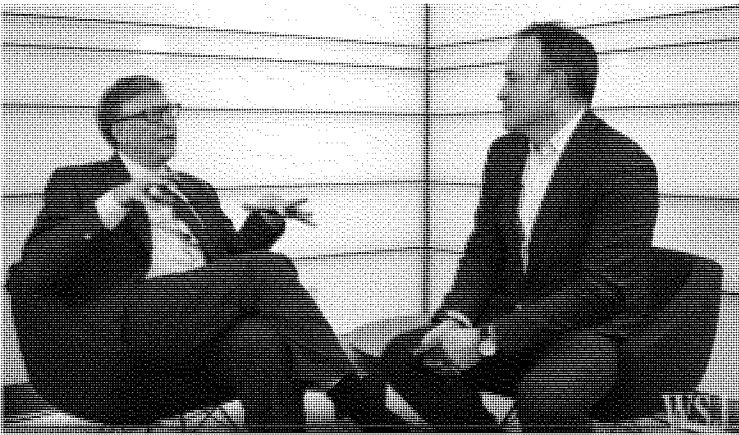
<https://www.youtube.com/watch?v=Ql-Mtlx31e8>



"Davos Man" Bill Gates interview at 2017 Davos World Economic Forum, Gates predicts 10 million deaths as most likely cause for the next either naturally or intentionally caused epidemic

<https://www.youtube.com/watch?v=ldn1bzTOXPQ>

"Davos Man" Bill Gates Jan 24, 2017 more hand wringing & Hitlerian hand gestures with Matt Murray



<https://www.youtube.com/watch?v=uN2Wh5ARRnQ>

A badly ageing , with wringing hands & Hitlerian hand gestures "Davos Man", Doctor William H. Gates III, Jan 24, 2017 talks more on epidemics & vaccines



<https://www.youtube.com/watch?v=ldn1bzTOXPQ>



William J. Clinton; William H. Gates III; Thabo Mbeki; Tony Blair; Bono; Olusegun Obasanjo—all celebrities, many outright criminals, and all corrupt and out of touch with the urgent needs of humanity.

Photo:- William J. Clinton; William H. Gates III; Thabo Mbeki; Tony Blair; Bono; Olusegun Obasanjo—all celebrities, many outright criminals, and all corrupt and out of touch with the urgent needs of humanity.

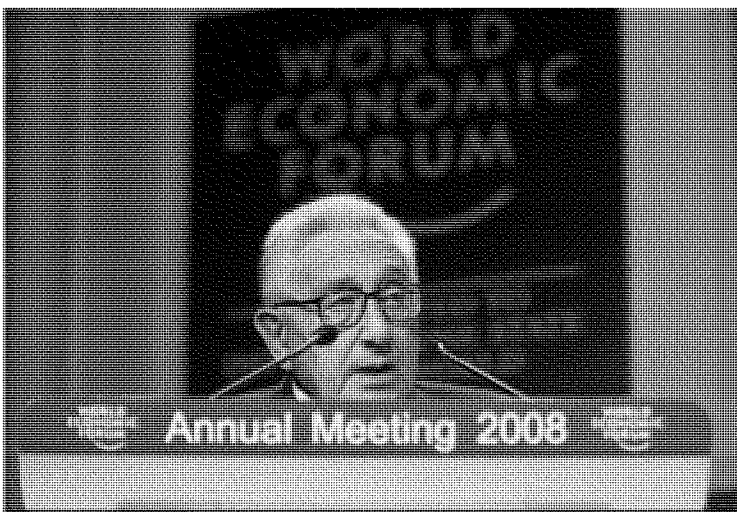


Photo:- As the real mafia that they are, the distinguished Davos crowd value the “expert advice” of old “consiglieri” like Henry Kissinger.

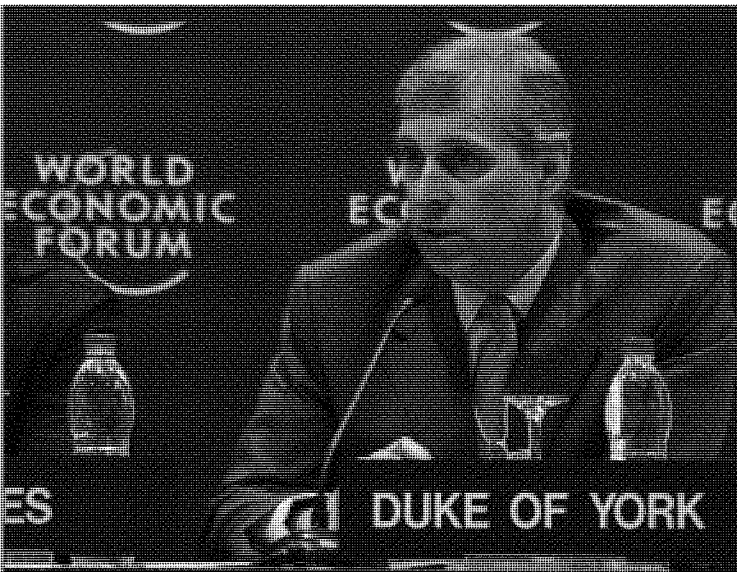


Photo:- Duke of York - & Klaus Schwab -



Indeed, the World Economic Forum’s main purpose is to function as a socializing institution for the emerging global elite, globalization’s “Mafiocracy” of bankers, industrialists, oligarchs, technocrats, [courtiers, celebrities], and politicians. They promote common ideas, and serve common interests: their own.

In 1997, the highly influential U.S. political scientist Samuel Huntington coined the term “Davos Man,”

[The Davos Class] “have little need for national loyalty, view national boundaries as obstacles that are thankfully vanishing, and see national governments as residues from the past whose only useful function is to facilitate the elite’s global operations.” (Samuel Huntington)

<https://www.greenvillepost.com/2015/02/27/the-davos-world-economic-forum-a-history-and-analysis/>

+++++



Brian Stelter interviews YouTube CEO Susan Wojcicki (not for the first time)

<https://edition.cnn.com/2020/04/23/media/youtube-videos-pandemic/index.html>

Brian Stelter - Born: 3-Sep-1985 Birthplace: Damascus, MD

<https://www.nndb.com/people/600/000403388/>

Religion: Methodist [1] [1] Will raise their daughter Jewish. <https://www.nndb.com/lists/875/000071662/>
Executive summary: Reliable Sources

Brian,

Recently saw two of your interviews with YOUTUBE CEO

Susan Diane Wojcicki - Jewish - <https://www.nndb.com/lists/875/000071662/>

(Sister: Anne E. Wojcicki (b 28-Jul-1973, m. Sergey Brin) -

Husband: Dennis Troper (Google executive, m. 1998, four children) -

I found it interesting that when she mentioned that Hand=Washing Videos were the newly popular Videos on YTube. Especially, when neither you or she took the opportunity to warn people about avoiding washing your hands with Methanol based hand sanitizers (a substance that can be toxic & life threatening when absorbed through the skin or ingested) hand sanitizers consumers should not use -

The List -

<https://www.fda.gov/drugs/drug-safety-and-availability/fda-updates-hand-sanitizers-consumers-should-not-use?fbclid=IwAR0vJADwZtDT7UObbhpsp3CFQossakzbaTVWgVXFx4iNOAwQQiGTT4QL7S0>

Meanwhile, I attach some internet links for you to investigate, possibly for your show reportage. Thanks Brian. Say hello to Jeff for me (the little man with the big ideas)... Regards,

(b)(6)



Facebook gives people the power to share... Founded in 2004, Facebook's mission is to give people the power to build community and bring the world closer together. People use Facebook to stay connected with friends and family, to discover what's going on in the world, and to share and express what matters to them.

(unless it's not mainstream news of course -)

WHILE

YouTube:



If You Disagree with the World Health Organization (WHO)
----- **We're Pulling Your Content**

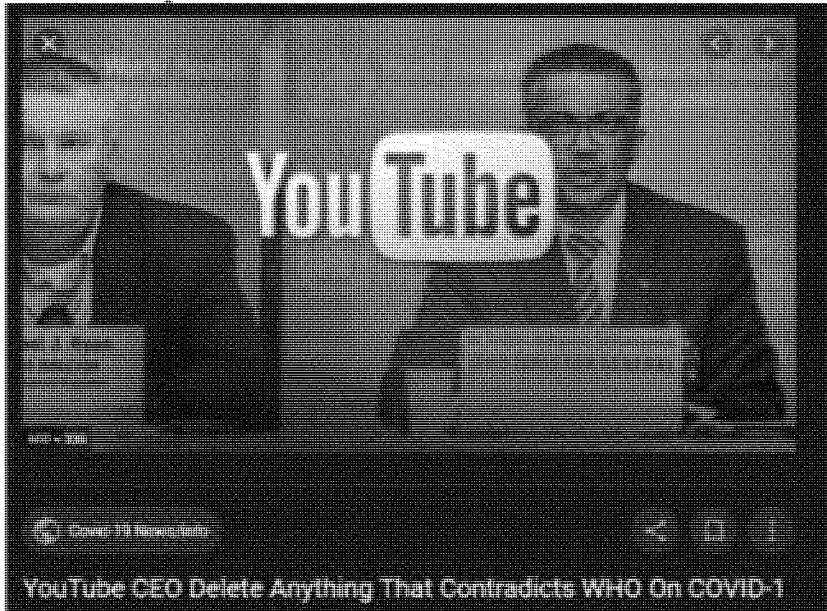
Even though the World Health Organization failed the globe, YouTube has decided to trust their guidelines and recommendations. In fact, the social media platform is pulling any and all Wuahn coronavirus content that isn't "authoritative" or comes directly from leading health care organizations.

<https://townhall.com/tipsheet/bethbaumann/2020/04/21/seriously-youtube-is-now-going-to-bat-for-the-world-health-organization-n2567376>

Townhall

Senator Marsha Blackburn tweeted that “[i]t is alarming that [YouTube] now relies on the [WHO]’s biased recommendations to decide what video content to take down.”

“The [WHO] gave inaccurate information about the spread of the virus, still parrots Chinese propaganda, and fought [President Donald Trump]’s China travel ban,” the junior senator from Tennessee pointed out.



YouTubeCEO: Gender inequality still a problem-

<https://www.youtube.com/watch?v=phOUYes6U5Q>



YouTube CEO: Wojcicki -TransGender inequality "also" still a problem, PT2

<https://www.youtube.com/watch?v=btsLZJw526A>



TRANSVESTIGATION , Oprah Winfrey

<https://www.youtube.com/watch?v=zGKCqmd8dXs>

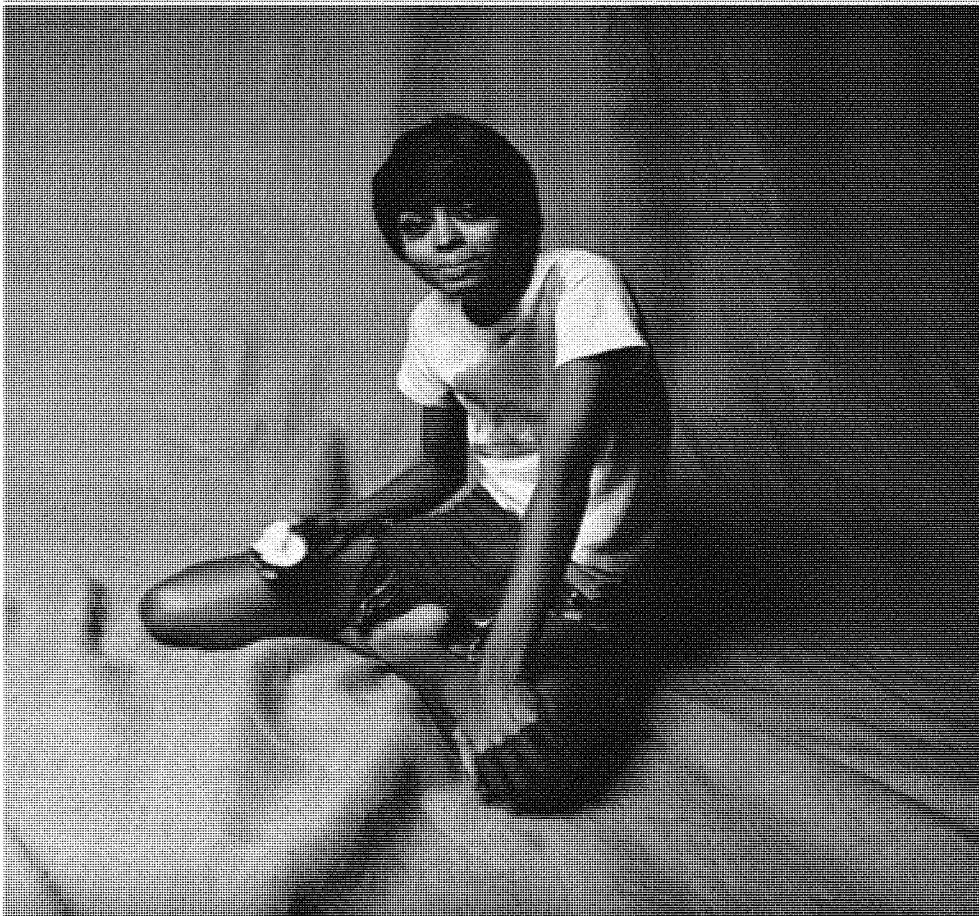




TRANSVESTIGATION - Diana Ross

<https://youtu.be/lZhhdIFmD5c?list=PLcruaaY3NeW2WwSTbedpIQdCxRVUfpjkQ>

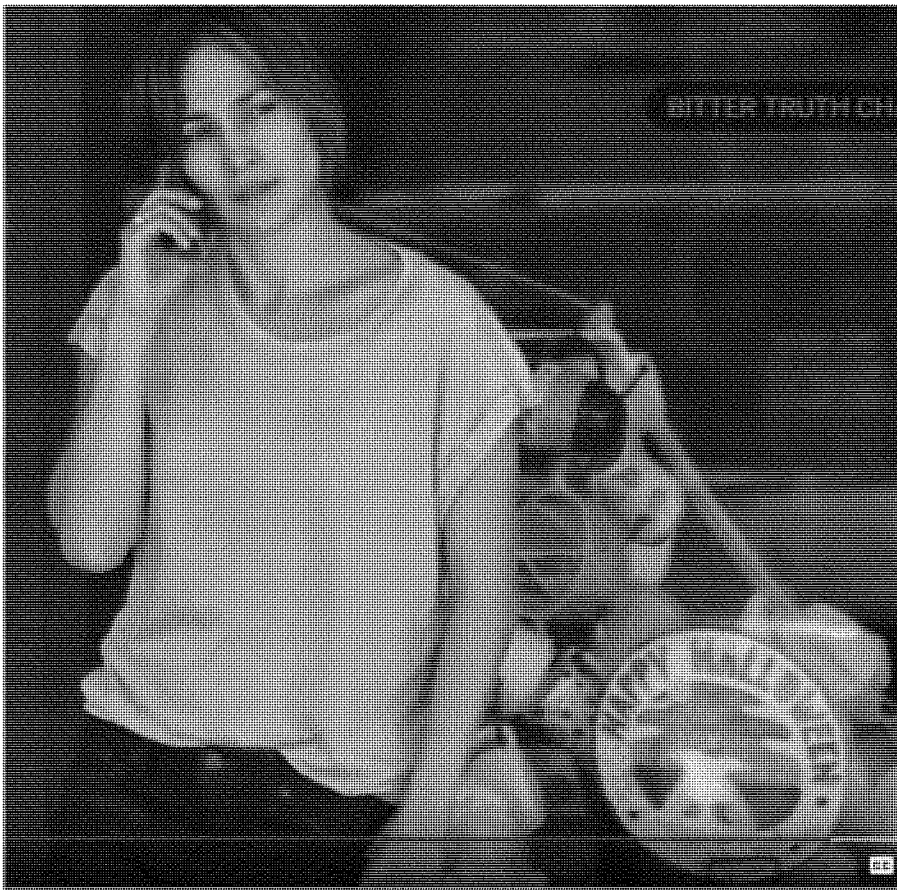
--Body Pose 18:00 hrs-----=-----3x6 = 18 = 666--

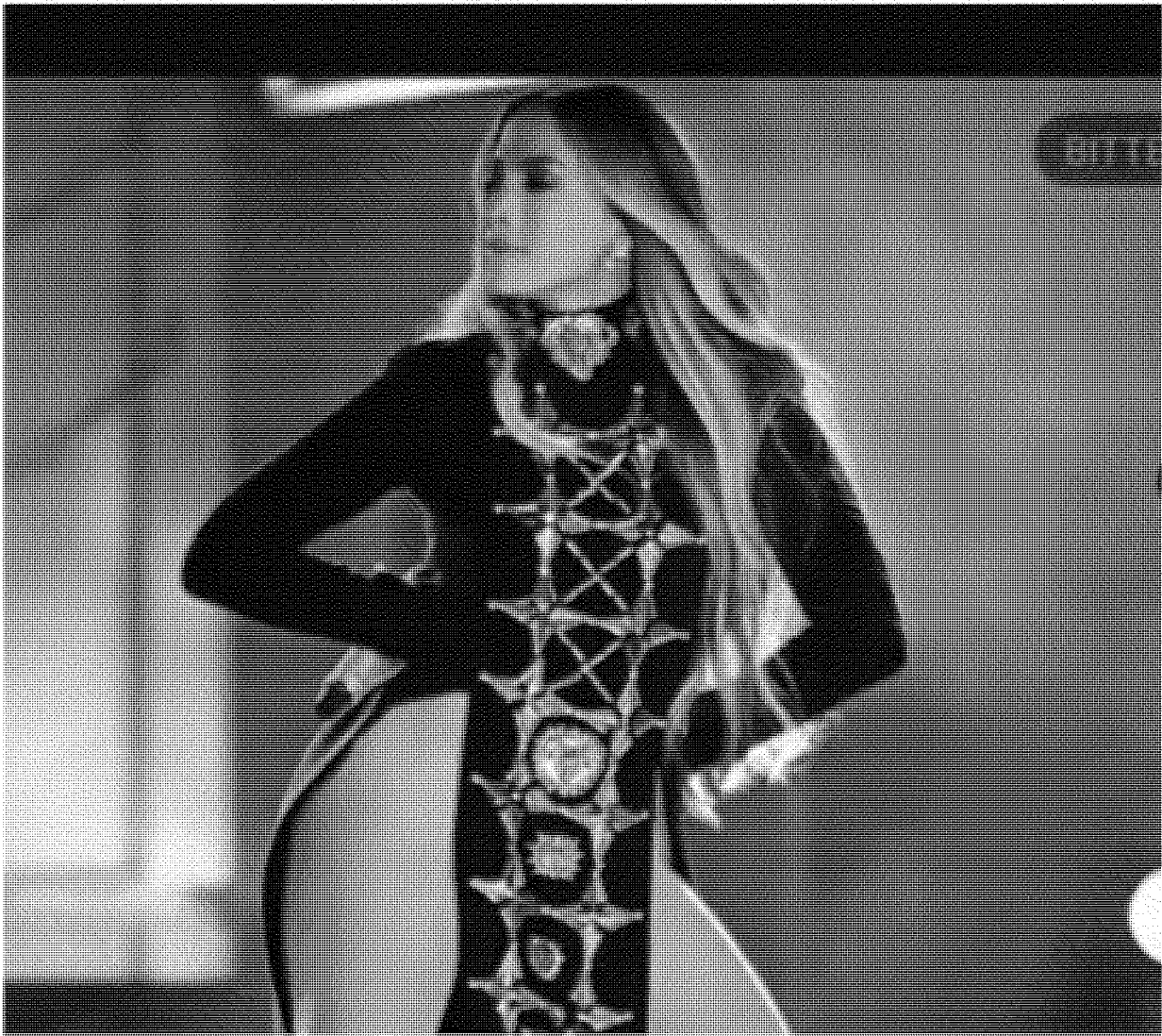


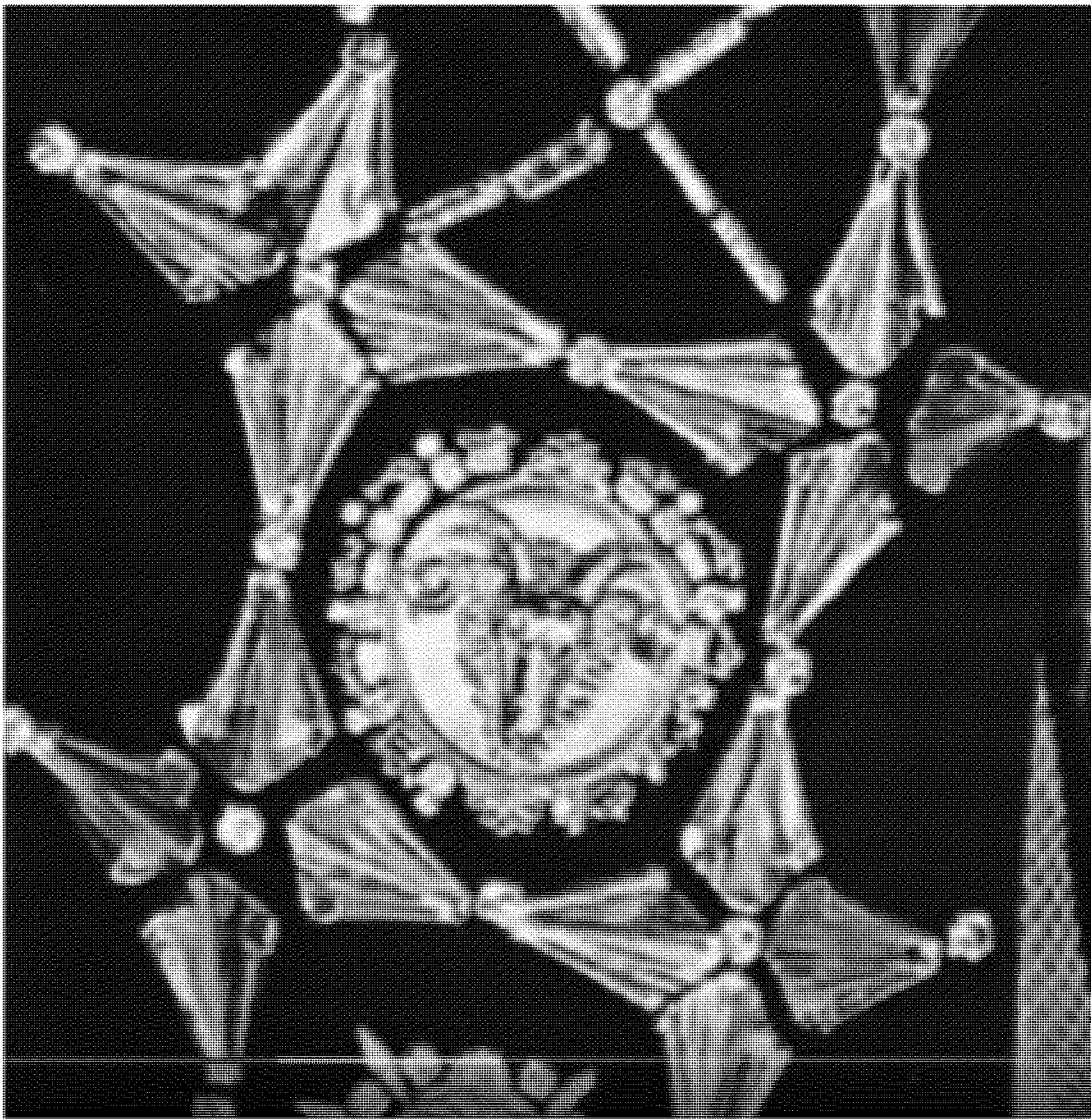
TRANSVESTIGATION:- Jennifer Lopez

https://www.youtube.com/watch?v=hk9_jrjkRug



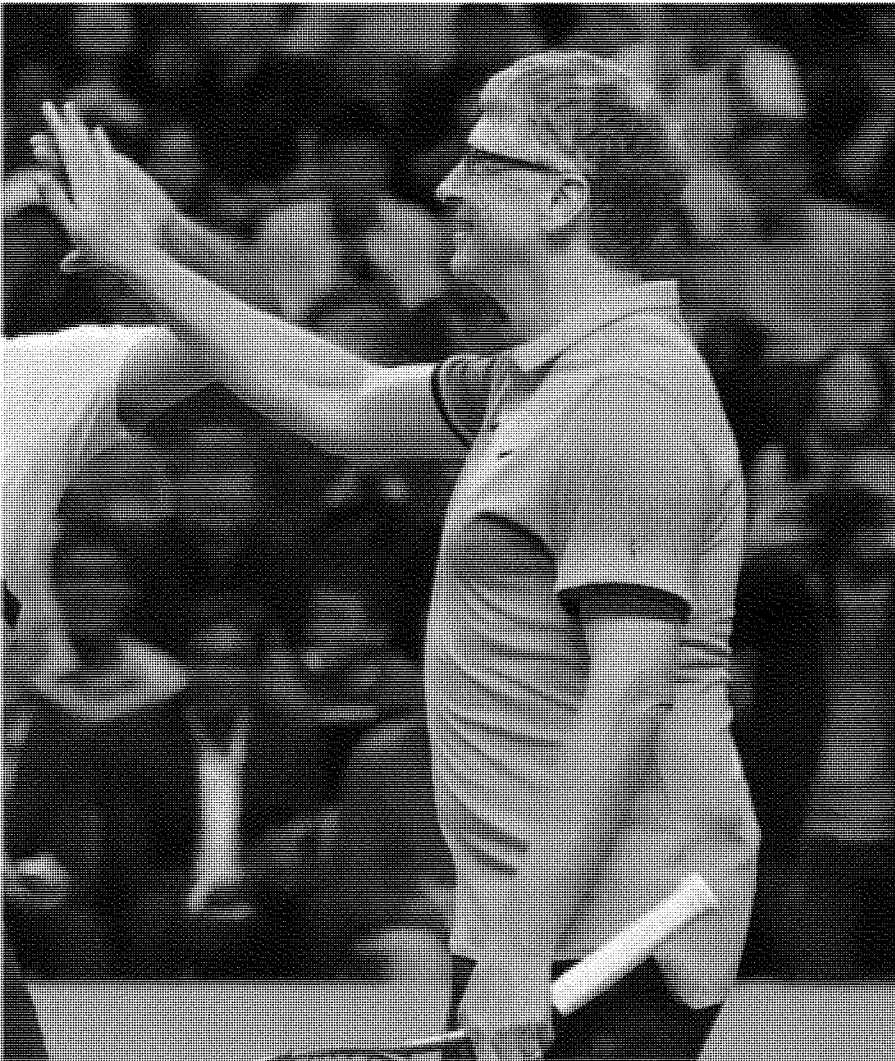






BAPHOMET RULES

Bill Gates, shows off his natural arch in back



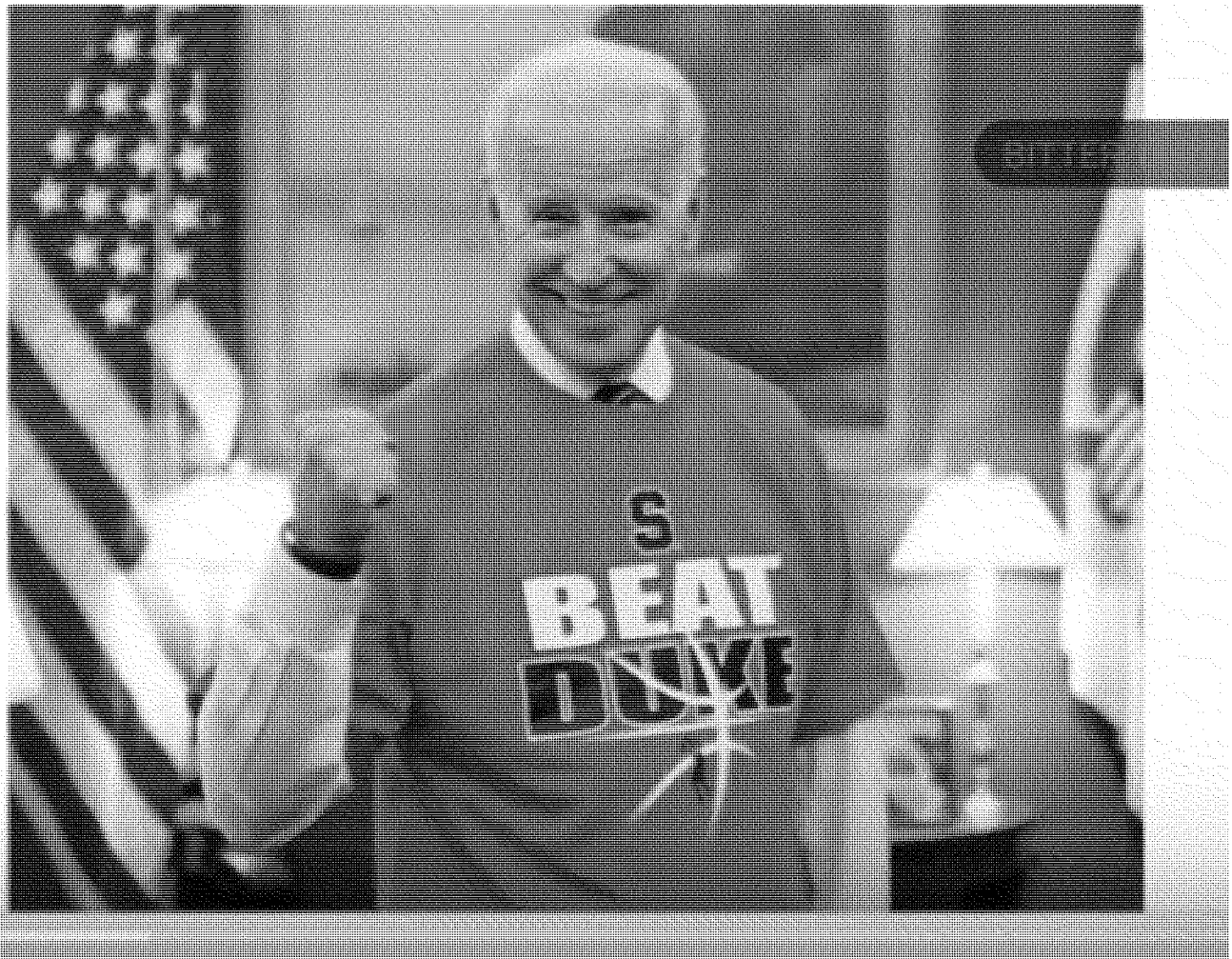
TRANSVESTIGATION :Bill Gates

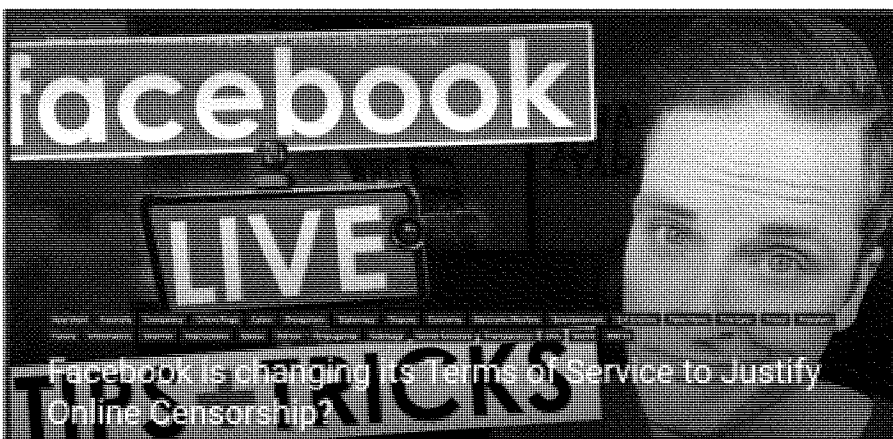
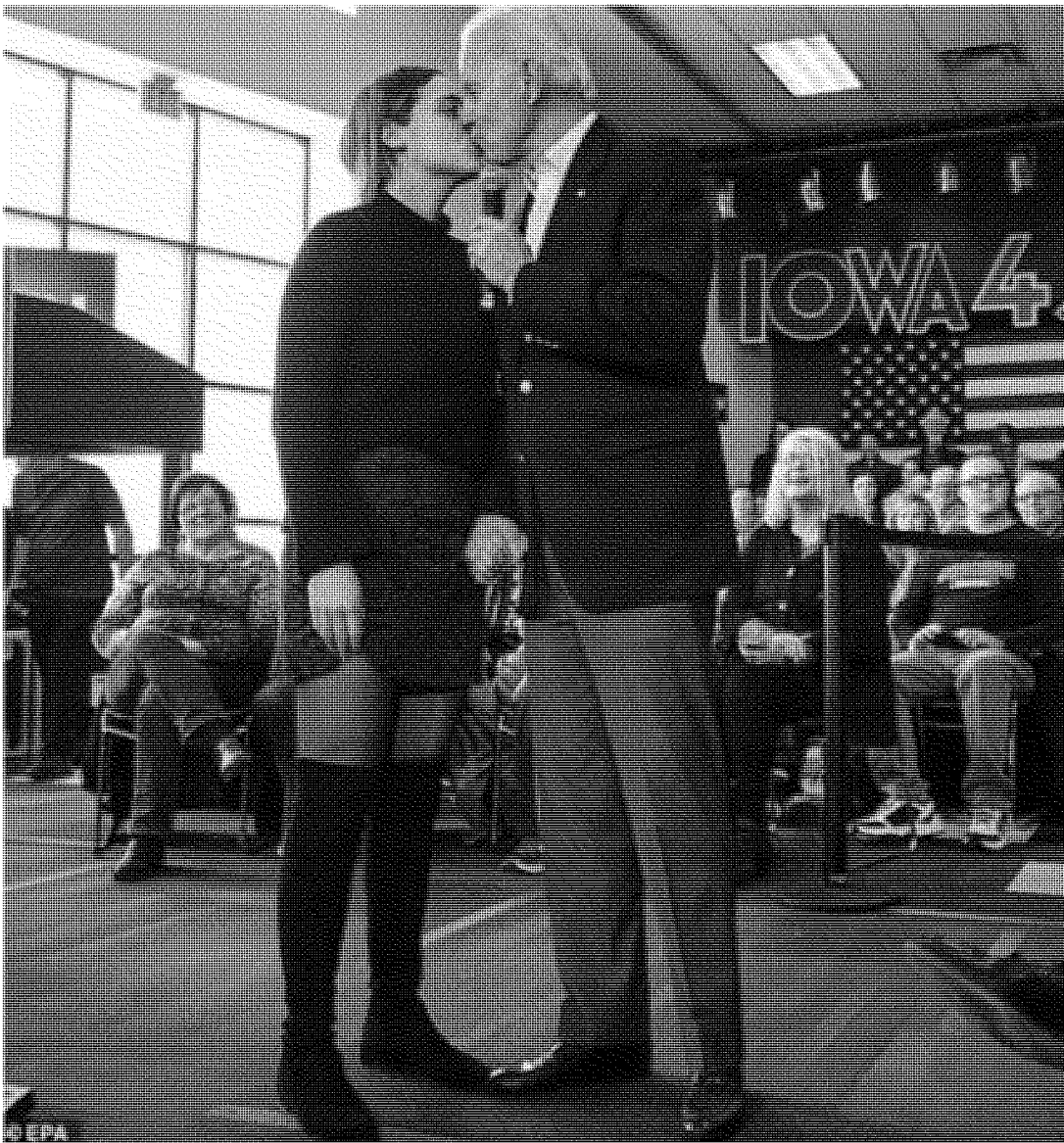
<https://www.youtube.com/watch?v=qONhZNmNEpY>



Mr Orange (33) - Uncle Joe @MeToo Exposed

<https://www.youtube.com/watch?v=Ngb-eRjSzx4&list=PL8esbL3NiO4T2XZnrBNLuJQI8GwpadTED&index=133&t=0s>





(Get Ready for the Fall) - & why Facebook is changing its Terms of Service -
<https://www.youtube.com/watch?v=9TOYf678Ru8>



Coronavirus Act 2020

CHAPTER 7

United Kingdom - Coronavirus Act 2020 -

The Coronavirus Act 2020 (c. 7) is an Act of the Parliament of the United Kingdom that grants the government emergency powers to handle the COVID-19 pandemic. The Act allows the government the discretionary power to limit or suspend public gatherings, to detain individuals suspected to be infected by COVID-19.

Areas covered by the Act include the National Health Service, social care, schools, police, Border Force, local councils, funerals and courts.

The Act was introduced by the Secretary of State for Health and Social Care, Matt Hancock,



https://en.wikipedia.org/wiki/Matt_Hancock who is also a member of the World Economic Forum - <https://www.weforum.org/people/matt-hancock>

on 19 March 2020, and passed all remaining stages of consideration in the House of Commons on 23 March without a vote and passed the House of Commons without a vote on 23 March, and the House of Lords on 25 March. The Act subsequently received royal assent on 25 March 2020.

The provisions of the Coronavirus Act, which are time-limited for two years the government has stated that these powers may be "switched on and off" according to the medical advice it receives.

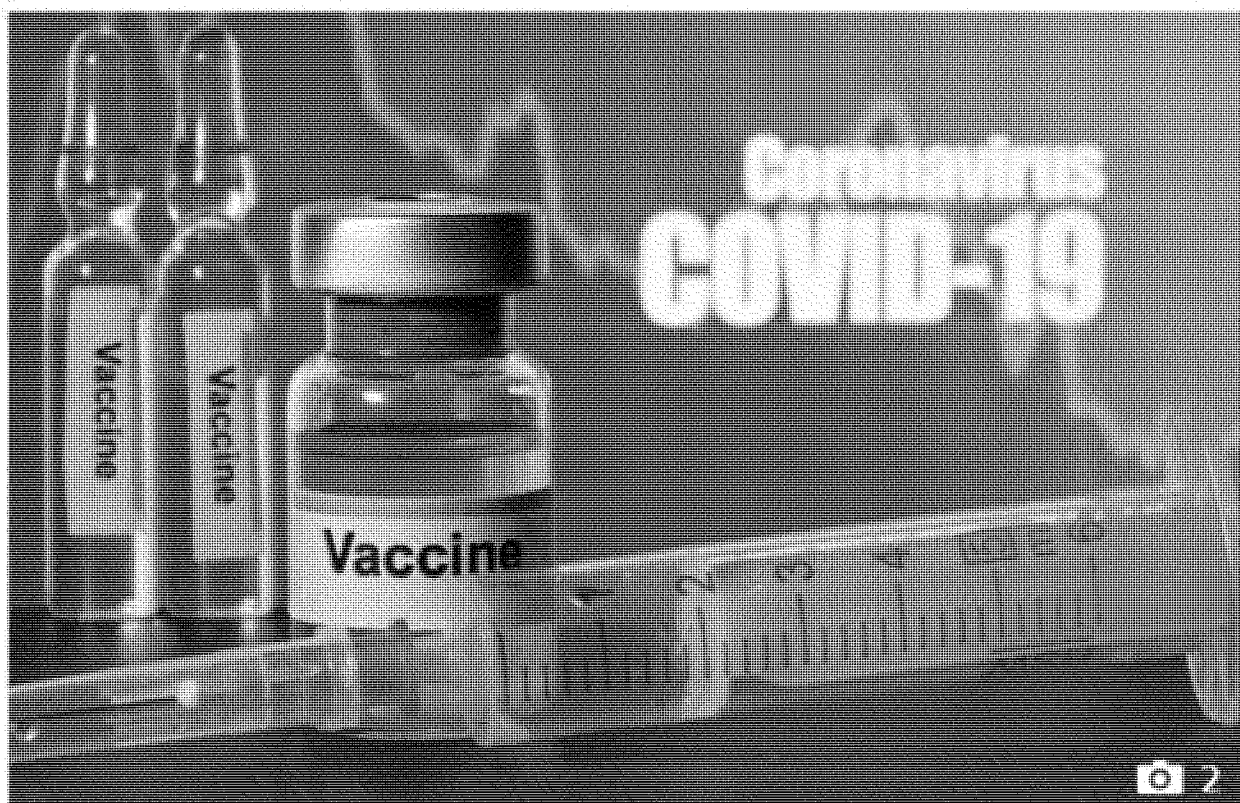
---Commentator Ian Dunt labelled the Act the "most extensive encroachment on British civil liberties ... ever seen outside of wartime". The human rights pressure group Liberty called for closer scrutiny of the bill, raising concerns that significant restrictions on civil liberties could remain in place beyond the end of the pandemic.

---Conservative MP and former Brexit Secretary David Davis tabled an amendment on 21 March to restrict the time limit of the bill to a "brick-wall stop" of one year, threatening a backbench rebellion. Conceding to concerns from both Conservative and Labour MPs over infrequent parliamentary scrutiny, on 23 March the government itself amended the bill to require parliamentary renewal of its powers every six months

https://en.wikipedia.org/wiki/Coronavirus_Act_2020

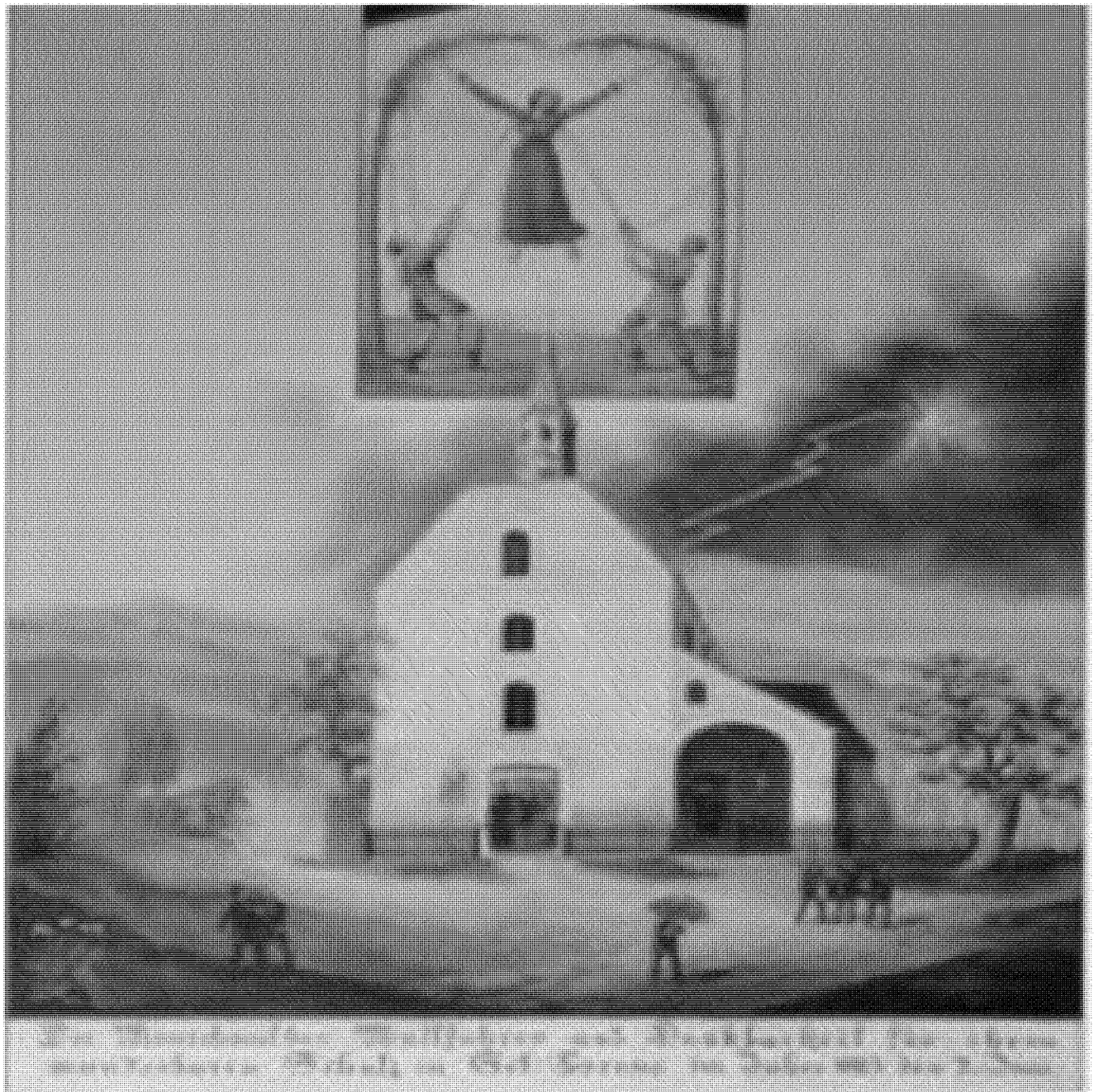
<https://www.politics.co.uk/information/editorial-contacts>

DENTISTS, paramedics and even vets could be giving Brits a new Covid vaccine as early as October, officials have revealed.



The vaccine would be given to health workers first Credit: Reuters

<https://www.thesun.co.uk/news/12526472/brits-coronavirus-vaccine-october-dentists-vets-administer-jab/>



The image of St. Corona above the high altar and the Way of the Cross, which were both restored following a renovation in 2019 in the St Corona Church, in Austria.

Image Credit: <http://www.pfarre-stcorona.at/stc/die-pfarrkirche/>

St. Corona, tied between two palm trees bent to the ground that were released to tear her apart.

The word "corona" is Latin for crown.

Ironically, St. Corona is considered as one of the patron saints of pandemics sufferers.

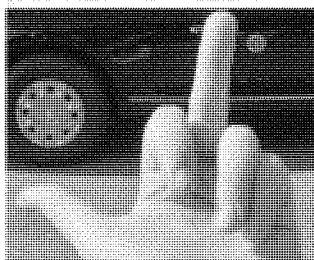
<https://gulfnews.com/world/meet-st-corona-the-patroness-of-plagues-and-pandemics-1.1584521800786>

the first "vaccine" for smallpox was administered by a Freemason*, Edward Jenner, on May 14th, 1796.

May 14th just happens to be the feast day for St. Victor and St. Corona.

<https://hawkeye134.blogspot.com/>

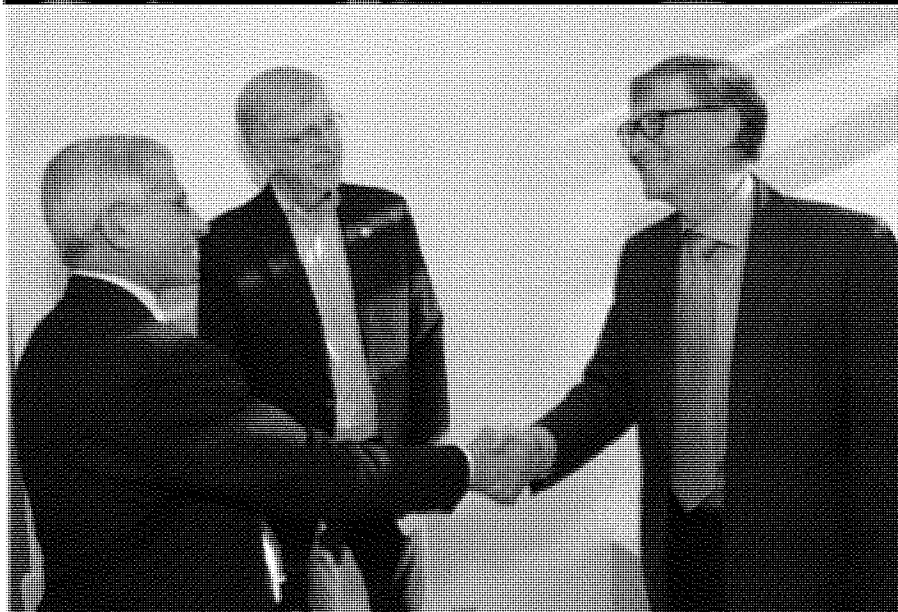
Cats, Corona & Contagion



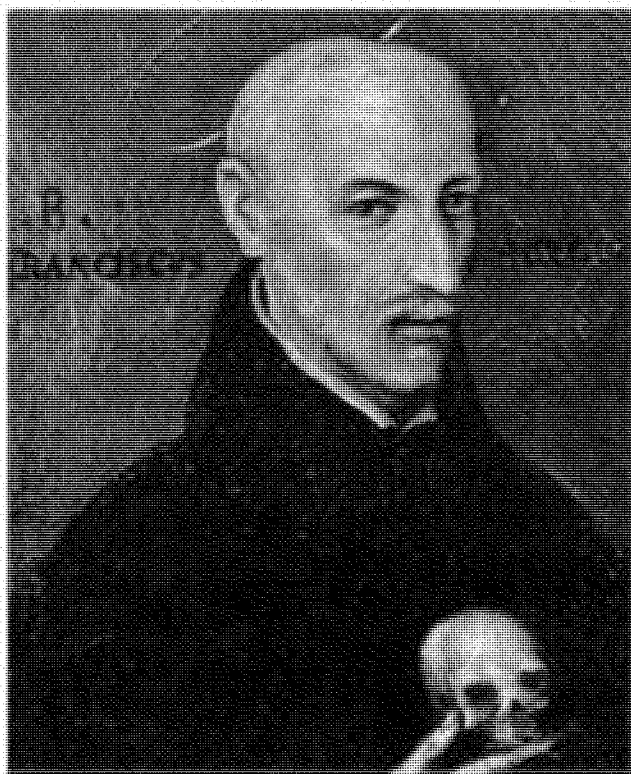
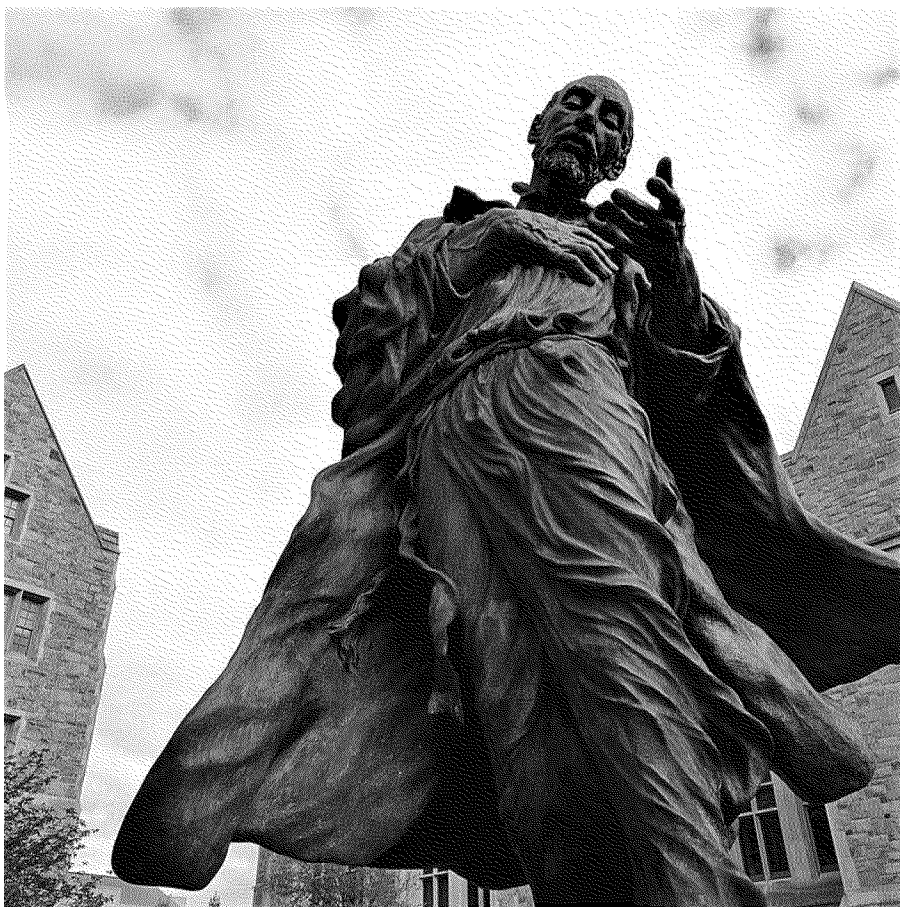
HELL IS EMPTY
AND
ALL THE DEVILS
ARE HERE

WILLIAM SHAKESPEARE









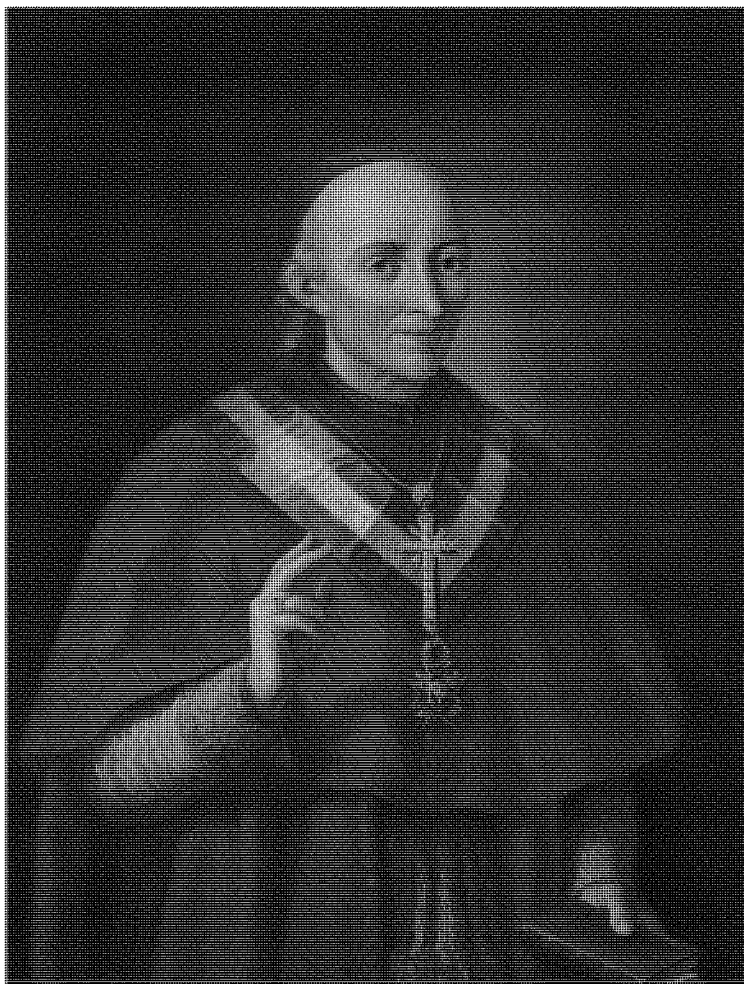
Portrait of a Jesuit Saint: San Francisco de Borja, 1726



The merited odium which has overtaken the Inquisition, usually officered by Dominicans, has induced the Jesuits, whose own controversial method has for the most part been different, to disclaim all connection with that tribunal, and to represent their society as free from complicity in its acts. But, in truth, it was Ignatius Loyola himself who procured its erection in Portugal in 1545-6, and F. Nithard, one of the very few cardinals of the society, was inquisitor-general of that kingdom in 1633.

The Founder of the Society of Jesus (Jesuit) Ignatius de Loyola himself procured its [the inquisition] erection in Portugal in 1545-6 (The Encyclopaedia Britannica: A Dictionary of Arts, Sciences, Volume 13)

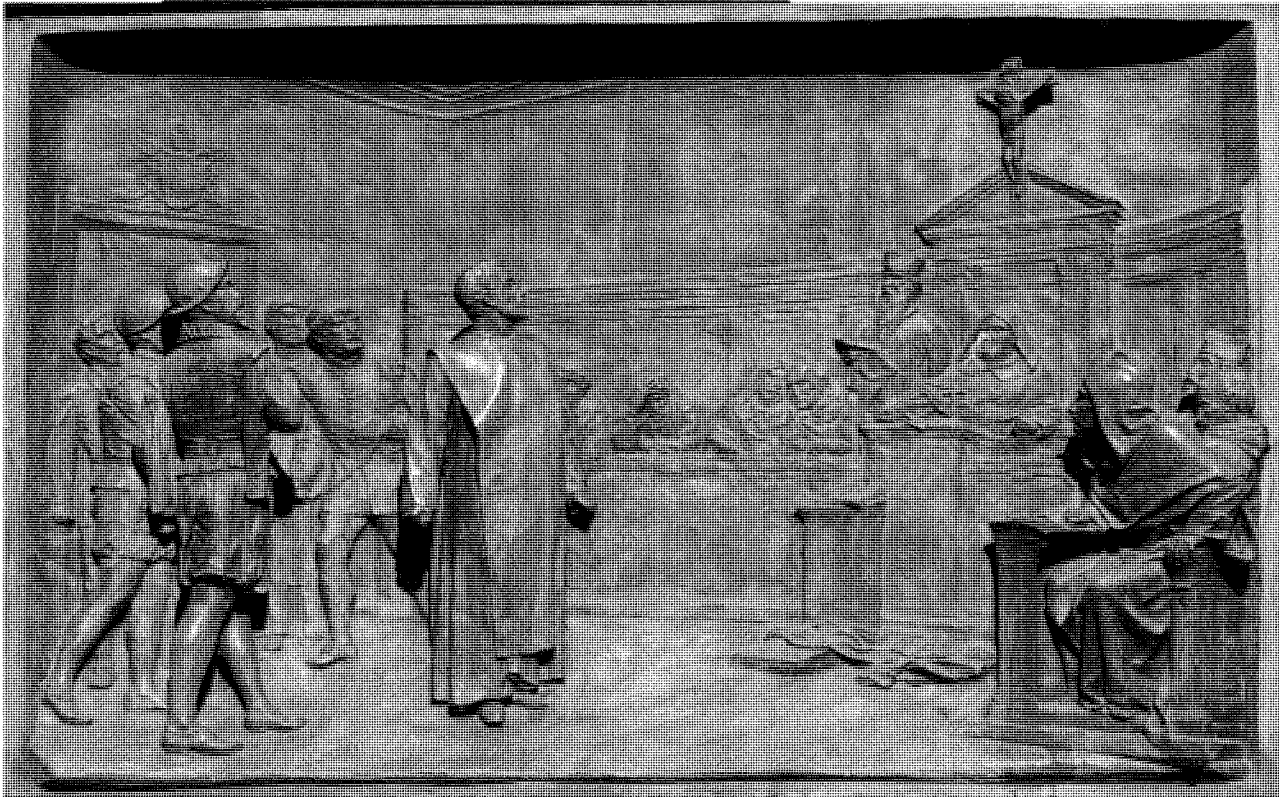
Photo:- Jesuit Francisco Antonio de Lorenzana, Grand Inquisitor of Spain (1794–1797) - https://en.wikipedia.org/wiki/Francisco_Antonio_de_Lorenzana





Pope Clement made him a Cardinal Inquisitor, in which capacity he served as one of the judges at the trial of Giordano Bruno, [https://en.wikipedia.org/wiki/Giordano Bruno](https://en.wikipedia.org/wiki/Giordano_Bruno) and concurred in the decision which condemned Bruno to be burned at the stake as a

heretic. <https://www.nndb.com/people/665/000029578/>

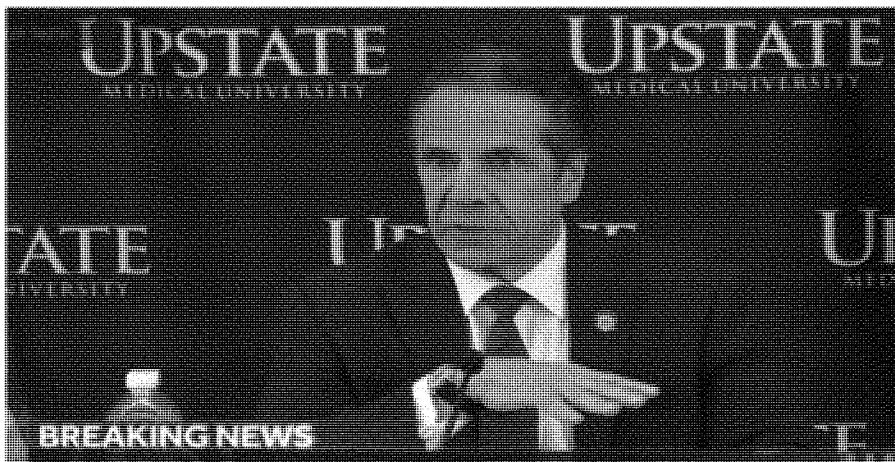


Pope Francis the Jesuit Pope & promoter of the World Lockdown in 2020 with UN Chief António Manuel de Oliveira Guterres .

Remarks by His Holiness The Jesuit Pope Francis and fellow Roman Catholic , United Nations Secretary-General António Guterres - <https://www.youtube.com/watch?v=CePSM3QMkEQ>



UN = World Government / Jacob Rothschild standing, Kissinger seated right.



Jesuit Coadjutor, Andrew Mark Cuomo flattening the curve ,
<https://www.youtube.com/watch?v=m8nCjNk3djc>

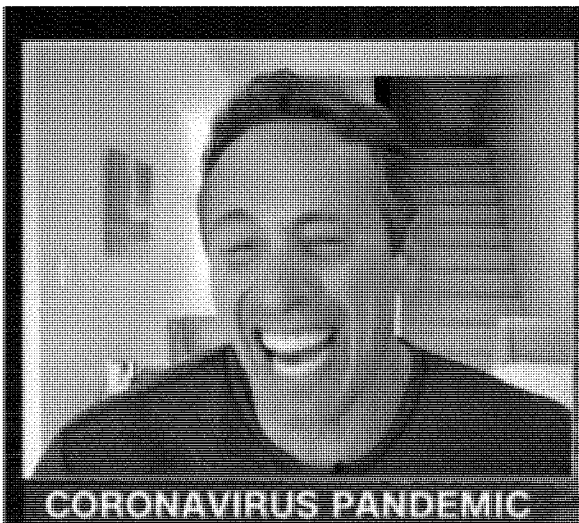
Andrew Mark Cuomo born December 6, 1957)
 Roman Catholic

<https://www.nndb.com/lists/758/000094476/>

Executive Summary:- Corona Virus Hoaxer

During his governorship, Cuomo oversaw the passage of a law legalizing same-sex marriage in New York; creation of the United States Climate Alliance, a group of states committed to fighting climate change by following the terms of the Paris Climate Accords; passage of the strictest gun control law in the U.S.; His parents were both of Italian descent; his paternal grandparents were from Nocera Inferiore and Tramonti in southern Italy, while his maternal grandparents were from Sicily His younger brother, Chris Cuomo, is a CNN journalist.

Andrew graduated from Roman Catholic St. Gerard Majella's School in 1971 a private Roman Catholic elementary school <https://www.privateschoolreview.com/st-gerard.../11423> and Archbishop Molloy High School in 1975 in Brooklyn NY https://en.wikipedia.org/wiki/Archbishop_Molloy_High_School He received a B.A. from Jesuit Fordham University in 1979, https://en.wikipedia.org/wiki/Fordham_University Cuomo will not release state death lists, nor did he order autopsies in this public health emergency as required!



Chris Cuomo

Jesuit Coadjutor, Chris Cuomo

AKA Christopher Charles Cuomo

Born: 9-Aug-1970

Birthplace: Queens, NY

Gender: Male

Religion: Roman Catholic

Race or Ethnicity: White

Sexual orientation: Straight

Occupation: Journalist

Nationality: United States

Executive summary: Co-Host, CNN New Day (Corona Virus Hoaxer)

Father: Mario Cuomo (Governor of New York, b. 15-Jun-1932, d. 1-Jan-2015)

Mother: Matilda Raffa

Sister: Margaret I. Cuomo

Brother: Andrew Cuomo (Governor of New York, b. 6-Dec-1957)

Sister: Maria Cuomo (m. Kenneth Cole)

Sister: Madeline Cuomo

Wife: Cristina Greeven (m. 24-Nov-2001, two daughters, one son)

Daughter: Bella

Daughter: Carolina Regina (b. 2011)

Son: Mario (b. 2005)

High School: The Albany Academy

University: BA, Yale University

Law School: JD, Fordham University (1995) (jesuit)

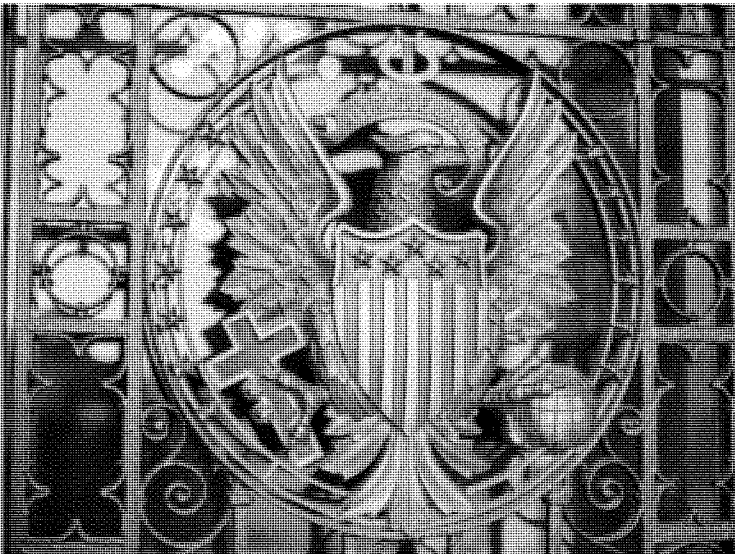


The Dark Side of Andrew Cuomo finally exposed

<https://www.bitchute.com/video/EnV06Fabkq6Z/>



(b)(6)



This email has been checked for viruses by Avast antivirus software.
www.avast.com

--

From: (b)(6)
Sent: 11/4/2020 4:42:04 AM
To: George Robert Stephanopoulos [George.Stephanopoulos@abc.com]
CC: David Jason Muir [David.Muir@abc.com]; Thomas Edward Llamas [Tom.Llamas@abc.com]; Pierre Thomas [pierre.thomas@abcnews.com]; Eva Pilgrim [eva.pilgrim@abcnews.com]; Jonathan D Karl [jonathan.karl@abcnews.com]; Cecilia Marcellina Vega [Cecilia.Vega@abcnews.com]; mary.bruce@abcnews.com; James.Goldston@abc.com; Martha Bowes MacCallum [Martha.MacCallum@foxnews.com]; William Bret Baier [bret.baier@FOXNEWS.COM]; Doa Lemon [Don.Lemon@turner.com]; Lesley Rene Stahl [Lesley.Stahl@nbcuni.com]; Michael T Osterholm [mto@umn.edu]; Michael.Osterholm@weforum.org; Rick Bright WHO [brightR@who.int]; john.watson@isirv.org; Maria.Zambon@isirv.org; john.watson@isirv.org; António Guterres [Antonio.Guterres@weforum.org]; António Manuel de Oliveira Guterres [guterres@un.org]; Hilde.Schwab@weforum.org; Klaus Schwab [Klaus.Schwab@weforum.org]; Nicole.Schwab@weforum.org; Olivier.Schwab@weforum.org; Kristen.Welker@nbcuni.com; francis.rocca@wsj.com; Ed [Ed.Mechmann@archny.org]; Judy.McGrath@amazon.com; Melanie [Melanie.Healey@viacbs.com]; Hans [Hans.Vestberg@viacbs.com]; Shari [shari.redstone@viacbs.com]; Kevin [kevin.frazier@viacbs.com]; James Thomas Fallon [jimmy.fallon@nbcuni.com]; Judith.Miller@FOXNEWS.COM; Mercedes Viana Schlapp [mercedes@CoveStrategies.onmicrosoft.com]; Matthew Aaron "Matt" Schlapp ACU Chair [mschlapp@conservative.org]; Noah [Noah.Oppenheim@nbcuni.com]; Mercedes V Schlapp [Mercedes.Schlapp@whitehouse.gov]; Matt Schlapp Cove Strategies [mschlapp@covestrategies.com]; George Robert Stephanopoulos [George.Stephanopoulos@abc.com]; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Alison Morris [Alison.Morris@nbcuni.com]; Lester Don Holt Jr [Lester.Holt@nbcuni.com]; Rachel Anne Maddow [Rachel.Maddow@nbcuni.com]; Kamala [dharris@stanford.edu]; Dana Marie Perino [dana.perino@foxnews.com]; Gregory Gutfeld [greg.gutfeld@foxnews.com]; Juan Antonio Williams [Juan.Williams@foxnews.com]; MARC.CAPUTO@politico.com; brian.stelter@turner.com; hope.hicks@whitehouse.gov; ceoclub@bc.edu; Christopher Wallik [chris.wallace@foxnews.com]; sean.conley@whitehouse.gov; Peter.Alexander@nbcuni.com; Hoda Kotb [Hoda.Kotb@nbcuni.com]; linsey.davis@abcnews.com; Kirill.Dmitriev@rdif.ru; Kirill.Dmitriev@weforum.org; Vladimir.Dmitriev@rdif.ru; Vlad [accredit@gov.ru]; Vladimir Putin [pr@nm-g.ru]; GhebreyesusT@who.int; RyanM@who.int; jon.meacham@time.com; jcohen@aaas.org; investigative@ap.org; Thomas Edward Llamas [Tom.Llamas@abc.com]; tom.llamas@abcnews.com; David.Muir@abcnews.com; David Jason Muir [David.Muir@abc.com]; Cecilia.Vega@abcnews.com; Stephanie.Ramos@abcnews.com; brian.stelter@turner.com; Brian.Rose@londonreal.tv; Kilmeade, Brian [Brian.Kilmeade@foxnews.com]; brian.jones@foxnews.com; Brian.Bennett@latimes.com; Judge Judy [Jeanine.Pirro@FOXNEWS.COM]; Susan Michie [s.michie@ucl.ac.uk]; Professor Sir David Clary [david.clary@magd.ox.ac.uk]; John Penrose [beauperec@parliament.uk]; Susan Diane Wojcicki [SGWEG@slac.stanford.edu]; adrienne.bankert@abc.com; tkoyama@us.ibm.com; Julian.Reichelt@bild.de; Nancy.Harmeyer@foxnews.com; marianna.spring@bbc.co.uk; mark.woolhouse@ed.ac.uk; brian.rose@londonreal.tv; Dana Kozlov [dakozlov@cbs.com]; Brad Edwards [baedwards@cbs.com]; John Bel Edwards [govpress@la.gov]; Richard M Novak MD [rmnovak@uic.edu]; Brett P. Giroir [ASH@hhs.gov]; Trey.Gowdy@nelsonmullins.com; trey.gowdy@foxnews.com; Harris Kimberly Faulkner [harris.faulkner@foxnews.com]; JMUSTIAN@ap.org; theodore.long@hms.harvard.edu; theodore.long@yale.edu; ted.long@nychealthandhospitals.org; neil.vora@cdc.gov; neil.vora@nychealthandhospitals.org; Kamala Devi Harris [Kamala_Harris@harris.senate.gov]; Kamala Devl Harris [chris_harris@harris.senate.gov]; dharris@stanford.edu; alex.hogan@foxnews.com; iain.begg@lse.ac.uk; fiona.watt@kcl.ac.uk; fiona.watt@mrc.ukri.org; Elvira.Nabiullina@rdif.ru; Sergei.Ivanov@rdif.ru; Andrey.Belousov@rdif.ru; Maksim.Oreshkin@rdif.ru; Dominique.Strauss-Kahn@rdif.ru; Vladimir.Dmitriev@rdif.ru; gintsburg@gamaleya.org; pronin@gamaleya.org; Michelle.Tuzee@abc7.com; marc.brown@abc7.com; lisa.booth@foxnews.com; smilligan@usnews.com; HGodman@usnews.com; Gordon.Robertson@cbn.com; lori.johnson@cbn.com; KGO-TV.Programming@abc.com; Kimberly.Hunt@10news.com; leon.clark@10news.com; Doris.Lewis@10news.com; bbloom@hsph.harvard.edu; florian.krammer@mssm.edu; Bai.Yansong@cctv.com; Edward.Law@cctv.com; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; Joel Scott Osteen [press@siriusxm.com]; Victoria L Iloff [advertising@siriusxm.com]; joel@lakewoodchurch.com; Lloyd E Campbell [lcampbell@spencerstuart.com]; Charles Philip Arthur George [fma@weforum.org]; Muriel Elizabeth Bowser [eom@dc.gov]; margaret.satterthwaite@nyu.edu; Andrew Mark Cuomo SJ [Press.Office@exec.ny.gov]; tara.brown@nine.com.au; 60Minutes@nine.com.au; naomi.shivaraman@nine.com.au; tdikeos@nine.com.au; Scott Gottlieb illuminati [info@illumina.com]; Scott.Gottlieb@aei.org; Scott Gottlieb [Brendan.Rascius@aei.org]; steve@apiject.com; jay@apiject.com; Clarisse Mason [masonc@who.int]; David Malpass [DMalpass@ifc.org]; David Wilson [dwilson@worldbank.org]; Mamadi Yilla [yillam2@state.gov]; staff@the-

asci.org; grotenfelt.nora@gmail.com; nathalie.macdermott@kcl.ac.uk; RT-US@rttv.ru; rick.sanchez@rttv.ru; justin@propublica.org; lsullivan@npr.org; prothma1@jhmi.edu; gail.mcGovern@redcross.org; david.meltzer@redcross.org; gail.mcGovern@dteenergy.com; gail.mcGovern@paypal.com; eliot_cohen@jhu.edu; david.rubenstein@jhu.edu; gail.mcGovern@jhu.edu; Mercedes.Lopez-Blanco@archny.org; Timothy.Dolan@archny.org; Robert.t.Ritche@archny.org; Ed.Dougherty@archny.org; Donald.Haggerty@archny.org; Wolf Isaac Blitzer [wolf.blitzer@turner.com]; Alison.Morris@nbcuni.com; Emily.Maitlis@bbc.co.uk; David.Grossman@bbc.co.uk; lmenninger@hmflaw.com; mcohen@cohengresser.com; Susanna.Reid@itv.com; piers.morgan@itv.com; Thomas J Kavalier [tkavalier@cahill.com]; news@highlandscurrent.org; jmeisner@tribune.com; eva.pilgrim@abc.com; jc2287@cumc.columbia.edu; mblabate@cicu.org; Kadlec, Robert P (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=70539a2f88924cc8913781ea74278b12-HHS-Robert.]; Azar, Alex (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4db7abd56a7e478883f5cd8e2e8a18d3-HHS-Alex.Az]; Stanley.Erck@novavax.com; umihighereducation@jesuits.org; Ellison.Barber@nbcuni.com; emily.badger@nytimes.com; Vernon Coleman [press@vernoncoleman.com]; boris.johnson@weforum.org; Anthony Charles Lynton Blair [info@institute.global]; tony.blair@weforum.org; melanie.walker@weforum.org; mwalker@gatesfoundation.org; BNikolic@gatesfoundation.org; David.Malpass@worldbank.org; Melanie.Walker@ama-assn.org; rachel.scott@abc.com; c.whitty@nhs.net; Andrew.Witty@uhg.com; patrick.vallance@number10.gov.uk; Sir Patrick Vallance [info@acmedsci.ac.uk]; David_S_Wichmann@uhc.com; Ken.Ehlert@uhc.com; Dirk_McMahon@uhc.com; mediacontact@questdiagnostics.com; Hinton, Denise [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=85feca0be694803be6030e97c7b4adb-HINTOND]; Stephen.Hemsley@uhg.com; hemsleyc@fordhamprep.org; tribe@law.harvard.edu; triversr@gmail.com; dersh@law.harvard.edu; lawrence_summers@hks.harvard.edu; lindsay_jones@hks.harvard.edu; enew@fas.harvard.edu; elisa.new@poetryinamerica.org; Boris.Nikolic@twistbioscience.com; Boris.Nikolic@editasmed.com; info@editasmed.com; boris.nikolic@biomaticscapital.com; Julie.Sunderland@biomaticscapital.com; Andrew.Pollard@ovg.ox.ac.uk; dale.woods@nbcuni.com; deedeemyers@warnerbros.com; Jeremy.Farrar@cepi.net; Joachim.Klein@cepi.net; Bryant, Paula R (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eb42f9318014bbb8c14d39ef311d8f9-HHS-paula.b]; Idro.Seferi@dw.com; sarah.mabrouk@dw.com; pisarna@tanja-fajon.eu; maja.kezunovickrasek@tanja-fajon.eu; Tanja.Fajon@ep.europa.eu; jure.tanko@ep.europa.eu; Sasa.Dragojlo@balkaninsight.com; Aleksandar.Vucic@weforum.org; tanja.fajon@europarl.europa.eu; Michelle Powers Net NY TV [michelle.powers@netny.tv]; Stanley.Plotkin@pennmedicine.upenn.edu; Lisa.Bellini@pennmedicine.upenn.edu; Leonard.Hayflick@ucsf.edu; Marie.Bernard@nih.gov; Gruber, Marion [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=019cd2669c7048f7a116d72b7682de44-gruber]; Jim.Sciutto@turner.com; andrewkaufmanmd@gmail.com; Jenny Anne Durkan [jenny.durkan@seattle.gov]; Sean Patrick Hannity [sean.hannity@foxnews.com]; kevin.corke@foxnews.com; dan.springer@foxnews.com; VladimirDuthiers [DuthiersV@cbsnews.com]; Vladimir Putin [pr@nm-g.ru]; Vlad [accredit@gov.ru]; Narendra.Modi@pmindia.gov.in; Eric Frederick Trump [etrump@trumporg.com]; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; jfair@tamu.edu; mwelsh@tamu.edu; Ellen.DeGeneres@nbcuni.com; Subha Nagalakshmi Munchetty-Chendriah [Naga.Munchetty@bbc.co.uk]; William Jefferson Blythe III [press@clintonfoundation.org]; Chancellor Hillary Diane Rodham Clinton [comms.office@qub.ac.uk]; Hillary Diane Rodham Cinton [philippe.reines@bgsdc.com]; Joseph Robinette Biden Jr [jbash@bgsdc.com]; Kate.Bedingfield@joebiden.com; Katherine Anne Couric [Katie.Couric@turner.com]; Katherine Jean "Kate" Bolduan [Kate.Bolduan@turner.com]; Linsey.Davis@abc.com; Tom.Llamas@abc.com; Steve Aduato [Mary.Gamba@steveadubato.org]; Heiko Maas [Heiko.Maas@auswaertiges-amt.de]; Matt Hancock UK Health Secretary [matt.hancock@weforum.org]; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@georgetown.edu; John.DeGioia@weforum.org; Tania.Tetlow@loyno.edu; julia.macfarlane@abc.com; emma.gormley@itv.com; The Rt Hon Boris Johnson MP [press@number10.gov.uk]; Alexander Boris de Pfeffel Johnson [boris.johnson.mp@parliament.uk]; Alisyn.Camerota@turner.com; Alison.Morris@nbcuni.com; Ron DeSantis [media@eog.myflorida.com]; His Worship S Khan [dexter@dexterhenry.co.uk]; Craig Melvin [Craig.Melvin@nbcuni.com]; Shannon Cake [scake@wptv.com]; NHogensen@scripps.com; Gregory Wayne Abbott [Press@GregAbbott.com]; Alfred Charles Sharpton Jr. [media@nationalactionnetwork.net]; Jennifer Mayerle [jlmayerle@wcco.com]; Jens.Spahn@weforum.org; Daniel.Funke@burda.com; Eckart.Bollmann@burda.com; hubert.burda@burda.com; matt.weiss@burda.com; Philipp.Welte@burda.com; friede.springer@axelspringer.com; Mathias.Doeppfner@axelspringer.com; MDoepfner@netlfix.com; Borge Brende [Borge.Brende@weforum.org]; Kristalina Ivanova Georgieva-Kinova [Kristalina.Kinova@weforum.org]; Al Gore [al.gore@weforum.org]; David M

Rubenstein [david.rubenstein@weforum.org]; Heizo Takenaka [Heizo.Takenaka@weforum.org]; Jack Ma [jack.ma@weforum.org]; Matt.Damon@weforum.org; yann.zopf@weforum.org; Zhu Min [Zhu.Min@weforum.org]; forumusa@weforum.org; Lester Don Holt Jr [Lester.Holt@nbcuni.com]; Dr. Pampee Young [media@redcross.org]; brian.stelter@turner.com; fns@foxnews.com; Foxnewssunday2@FOXNEWS.COM; Thomas V Inglesby MD [tinglesby@jhu.edu]; Prof Charles D Todd [ctodd@jhu.edu]; Charles David Todd [chuck.todd@nbcuni.com]; Paul B Rothman MD John Hopkins [crothman@jhu.edu]; Eliot A Cohen [ecohen@jhu.edu]; media@gatesfoundation.org; tvstudio@who.int; lindmeierch@who.int; SalisburyM@who.int; GhebreyesusT@who.int; Joe.Scarborough@nbcuni.com; Gina.Kolata@nytimes.com; stanley@stanleyjohnson.org; hannah.beer@curtisbrown.co.uk; mara.gay@nytimes.com; maggie.haberman@nytimes.com; editor@churchmilitant.com; michael.voris@churchmilitant.com; lawrence.Gostin@weforum.org; Lawrence Oglethorpe Gostin [gostin@law.georgetown.edu]; douglas.emhoff@dlapiper.com; beth.daley@theconversation.com; Madeleine.Rivera@foxnews.com; Geraldo.Rivera@foxnews.com; JDeGioia@carnegie.org; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@weforum.org; John.DeGioia@georgetown.edu; Matteo Bruni [Matteo.Bruni@vatican.va]; Alexander.Gintsburg@rdif.ru; Alina.Kabaeva@nm-g.ru; Andrey.Belousov@rdif.ru; Kirill.Dmitriev@rdif.ru; Kruglova Anna M. [amkruglova@rttv.ru]; Maksim.Oreshkin@rdif.ru; Mikhail Albertovich Murashko [NabatovaEA@rosminzdrav.ru]; Nogaeva Oksana G. [ognogaeva@rttv.ru]; ministry@mid.ru; press@rosminzdrav.ru; Dr. Margaret Chan Director General of WHO [chanm@who.int]; Jane Pauley [PauleyS@cbsnews.com]; Susan Zirinsky [SusanZ@cbsnews.com]; Martha Teichner [TeichnerM@cbsnews.com]; Brown, Jeremy (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6e502731145c4045b5e088df526a710b-HHS-jeremy.]; nina.shore@nih.gov; Ward, Jackie M (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9195352dc4c040ca9e98a5434f9b0cca-HHS-jackie.]; Gareth Genner [Gareth.Genner@truststamp.ai]; christoph.jumpelt@dw.com; Karl.Juesten@dw.com; Vicky.Nguyen@nbcuni.com; Constanze.Stelzenmueller [CStelzenmueller@brookings.edu]; sburnett@ap.org; Helge.Braun@bundesregierung.de; Angela.Merkel@bundestag.de; Horst.Seehofer@bundestag.de; andreas.scheuer@bundestag.de; Jens.Spahn@bundestag.de; stefan.kaufmann@bundestag.de; Heiko.Maas@bundestag.de; Helge.Braun@bundestag.de; Helge.Braun@bundeskanzlerin.de; Christine.Lambrecht@bundestag.de; Olaf.Scholz@bundestag.de; Wolfgang.Schauble@bundestag.de; Steffen.Seibert@bpa.bund.de; ulrike.demmer@bpa.bund.de; martina.fietz@bpa.bund.de; Margaret.Chan@Weforum.org; pierre.thomas@abcnews.com; David.Muir@abc.com; matt.gutman@abcnews.com; dmitry.chernychenko@gazprom-media.com; ian.dunt@politics.co.uk; Vanessa.Kortekaas@ft.com; Christopher.Ruddy@newsmax.com; Michelle.Malkin@newsmax.com; darren.beattie@hudson.org; heather.nauert@hudson.org; douglas.feith@hudson.org; lewis.libby@hudson.org; leserservice@funkemedien.de; Ove.Saffe@funkemedien.de; Andreas.Schoo@funkemedien.de; matt.murray@wsj.com; Michael.Wueller@wsj.com; jomalleydillon@joebiden.com; roflaherty@joebiden.com; john.pence@donaldjtrump.com; lara.trump@donaldjtrump.com; Bill.Stepien@donaldjtrump.com; Mercedes.Schlapp@donaldjtrump.com; Nose Power [press@joebiden.com]; Paul.Sagan@propublica.org; jill.Abramson@propublica.org; Stephen.Hoge@modernatx.com; Stéphane Bancel [media@modernatx.com]; Alan Jay Lichtman [lichtman@american.edu]; Lesley Stahl [media@bilderbergmeetings.org]; Nancy Cooper [nancy.cooper@newsweek.com]; exclusive@the-sun.com; Anthony Stephen Tony Fauci [anthony.fauci@nih.gov]; TonyDokoupil [DokoupilT@cbsnews.com]; tony.hall@bbc.co.uk; Anthony Mason [MasonA@cbsnews.com]; Michael Anthony Strahan [michael.strahan@abc.com]; George.Murdoch@foxnews.com; rupert.murdoch@fox.com; Lachlan.Murdoch@fox.com; rbrooks@newscorp.com; Leland Vittert [leland.vittert@foxnews.com]; His Eminence Timothy Cardinal Dolan [maryellen.oconnor@archny.org]; cathy.newman@channel4.com; Eric Frederick Trump [etrump@trumporg.com]; etrump@maralagoclub.com; peter.doocy@foxnews.com; jesse.watters@foxnews.com; Tucker Swanson McNear Carlson [tucker.carlson@foxnews.com]; Neil Patrick Cavuto [neil.cavuto@FOXNEWS.COM]; shannon.ryan@disney.com; Xi.Jinping [Wang.Yi@fmprc.gov.cn]; Wolf Blitzer [wolf.blitzer@turner.com]; Dana Ruth Schwartz [dana.bash@turner.com]; Jeff Zucker [Jeff.Zucker@turner.com]; Stuart.Varney@foxbusinessnews.com; chris_harris@harris.senate.gov; Dan_Holler@rubio.senate.gov; david_popp@mccconnell.senate.gov; Justine_Sanders@rubio.senate.gov; Kamala Harris [Kamala_Harris@harris.senate.gov]; Tony.Gallagher@the-sun.com; mmflint@facebook.com; tom@tomdispatch.com

Subject:

George:- "Remember, remember the 5th of November", Voting & Census taking by brainwashing the masses, red blue ties (divide & conquer) Wag the dog, the Compromise of 1877,



#Election #ElectionDay #Election2020

LIVE 2020 Election Day Coverage — ABC News Live



George,

Great reporting, you and your team!

Love your chair, and the way you spin around in it, it must be comfy..

Anyway, out of all the coverage I watched today, you and your team's reportage is definitely the best. Specially liked Karl's remarks he was dead on.

Attaching a few links for your investigations and possible reportage.

Very exciting reportage will stay up and watch till your done.

All the best, warm regards,

(b)(6)

+++++

P.S. Did you notice AP's retraction about calling Florida? Wonder if Biden's Camp told them to do that?

BREAKING: Donald Trump wins Florida. #APracecall at 12:35 a.m. EST. #Election2020

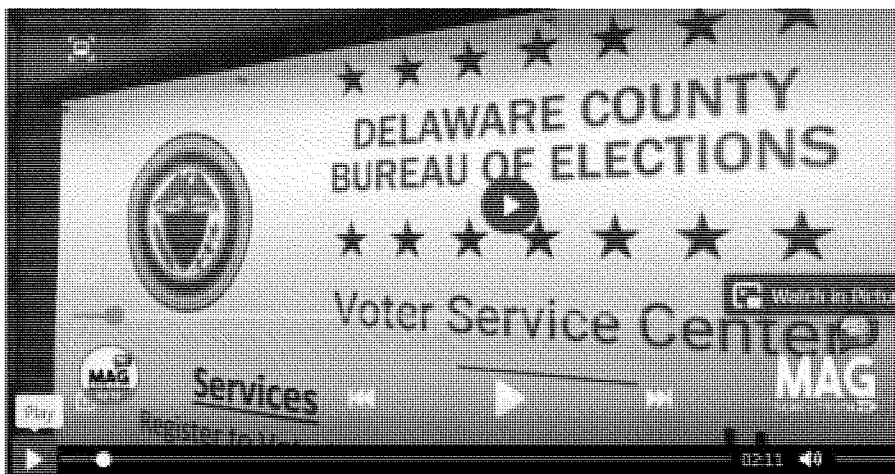
ELECTION 2020

Election 2020

News from The Associated Press, the definitive source for independent journalism from every corner of the globe.

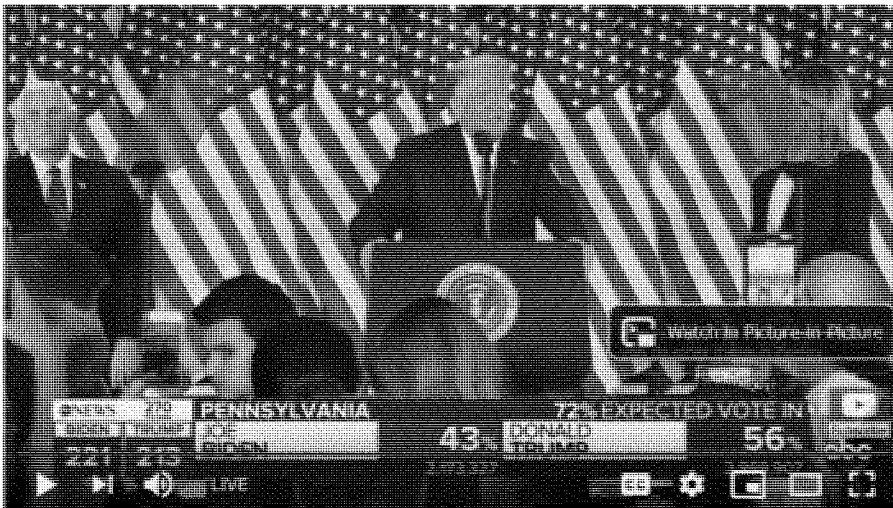
apnews.com

5:36 AM · Nov 4, 2020 · AP Race Calls Bot · AP Politics



Fallen angels & Freemasonic Voting Halls in Delaware

Census taking & Brainwashing the masses, I VOTED, I changed the world. I am a damn sheep. Dumb as a box of rocks. <https://www.bitchute.com/video/BZuYPX7tducC/>



President Trump wearing blue tie and Vice President Pence wearing red, in press statement on election results :- Trump claims he has won election and demands Supreme Court stops more ballots being counted ""We want the law to be used in a proper manner, so we'll be going to the US Supreme Court. We want all voting to stop," Mr Trump added. "We don't want them finding any ballots at four in the morning and adding them to the list."

CH #Election #ElectionDay #Election2020

LIVE 2020 Election Day Coverage — ABC News Live

https://www.youtube.com/watch?v=w_Ma8oQLmSM

Census taking & Brainwashing the masses, I VOTED, I changed the world. I am a damn sheep. Dumb as a box of rocks. <https://www.bitchute.com/video/BZuYPX7tducC/>

Wag the dog

https://en.wikipedia.org/wiki/Wag_the_Dog

and the Compromise of 1877 was an unwritten deal, informally arranged among U.S. Congressmen, that settled the intensely disputed 1876 presidential election.

https://en.wikipedia.org/.../1876_United_States...

The results of the election remain among the most disputed ever.

Compromise of 1877

https://en.wikipedia.org/wiki/Compromise_of_1877

IS PROTOCOL No. 10 of te ELDERS being fulfilled?

11. In the near future we shall establish the responsibility of presidents.

12. What do we care if the ranks of those striving for power should be thinned, if there should arise a deadlock from the impossibility of finding presidents, a deadlock which will finally disorganize the country? . . .

<http://biblebelievers.worthyofpraise.org/przion4.htm>

(b)(6)



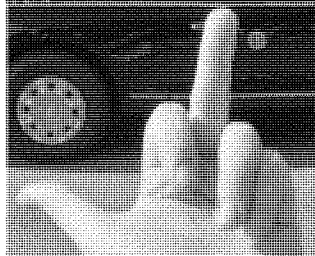
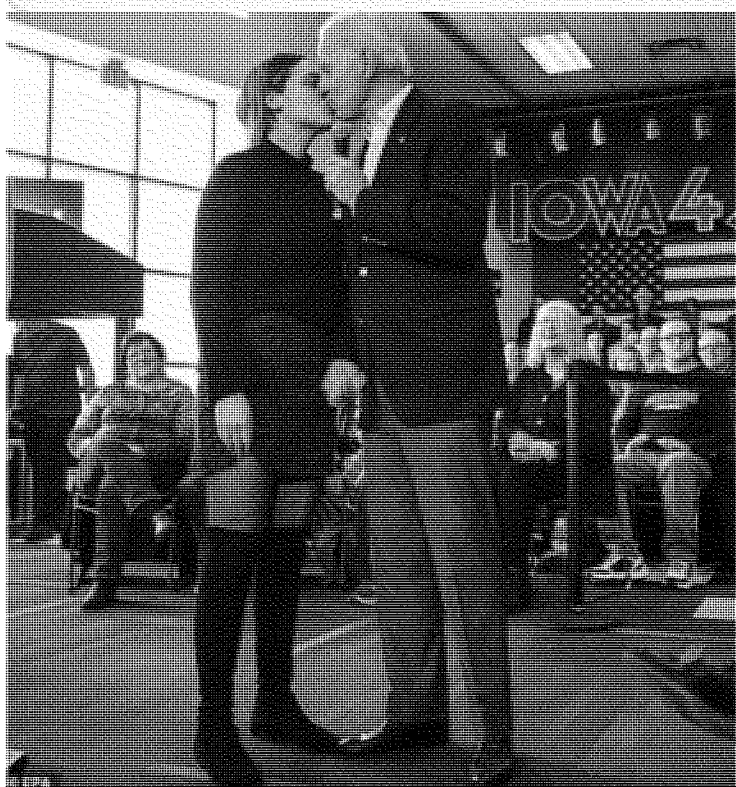
Joe Biden



@JoeBiden · Jun 27



Wear a mask.

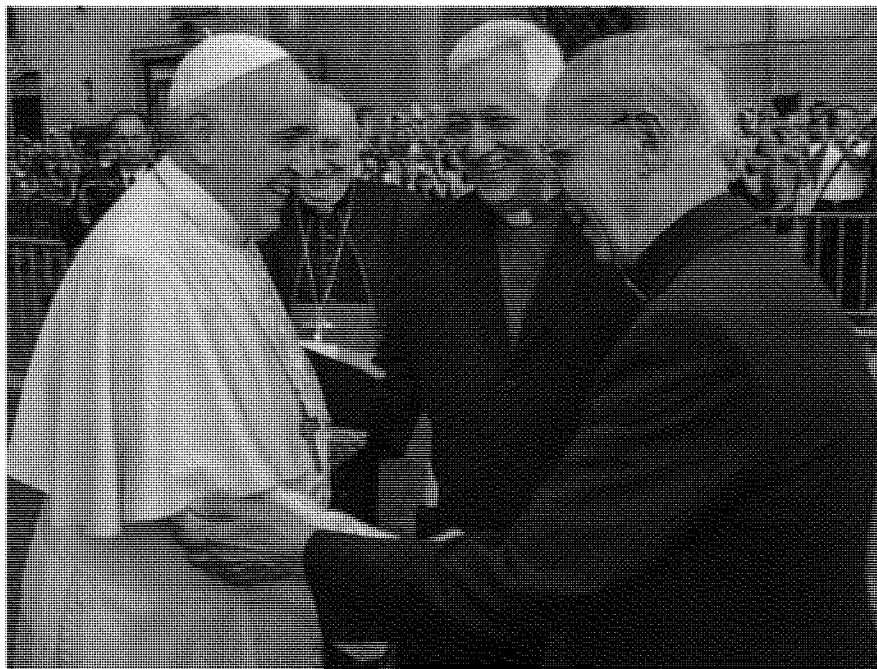


HELL IS EMPTY
AND
ALL THE DEVILS
ARE HERE

WILLIAM SHAKESPEARE

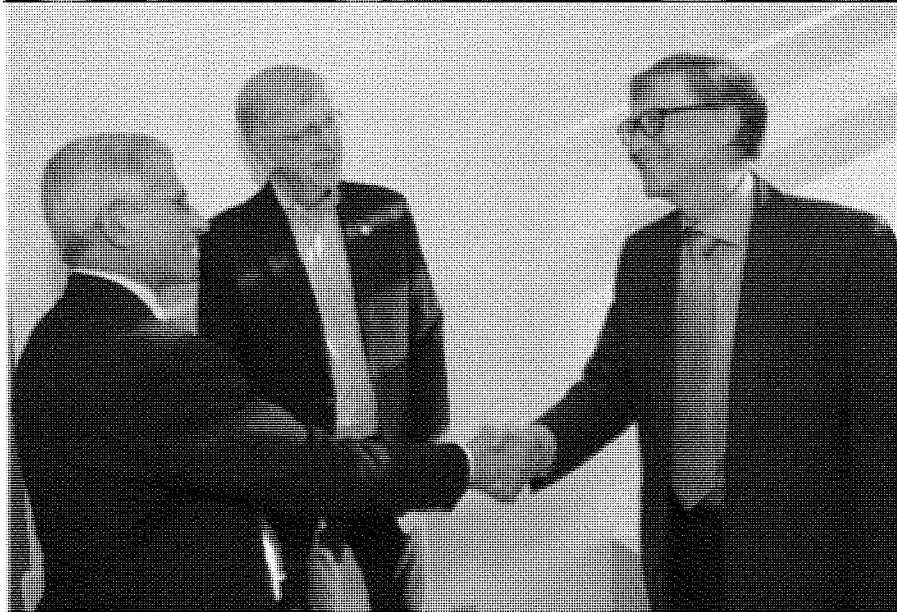


"They are called the Society or Company of Jesus, the latter designation expressing more correctly the military idea of the founder, which was to establish, as it were, a new battalion in the spiritual army of the Catholic Church."—The Encyclopedia Americana, art. "Jesuits."

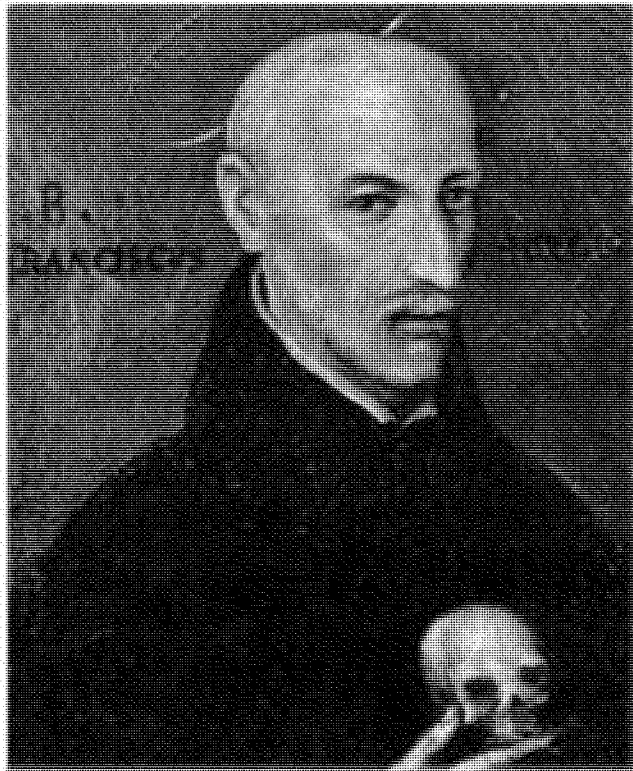


T
E
C
S
I
E
C
C
Z
t
Z
V
E
f
t
C
f
V
E
.

Adolfo Nicholas SJ (right) with Pope Francis







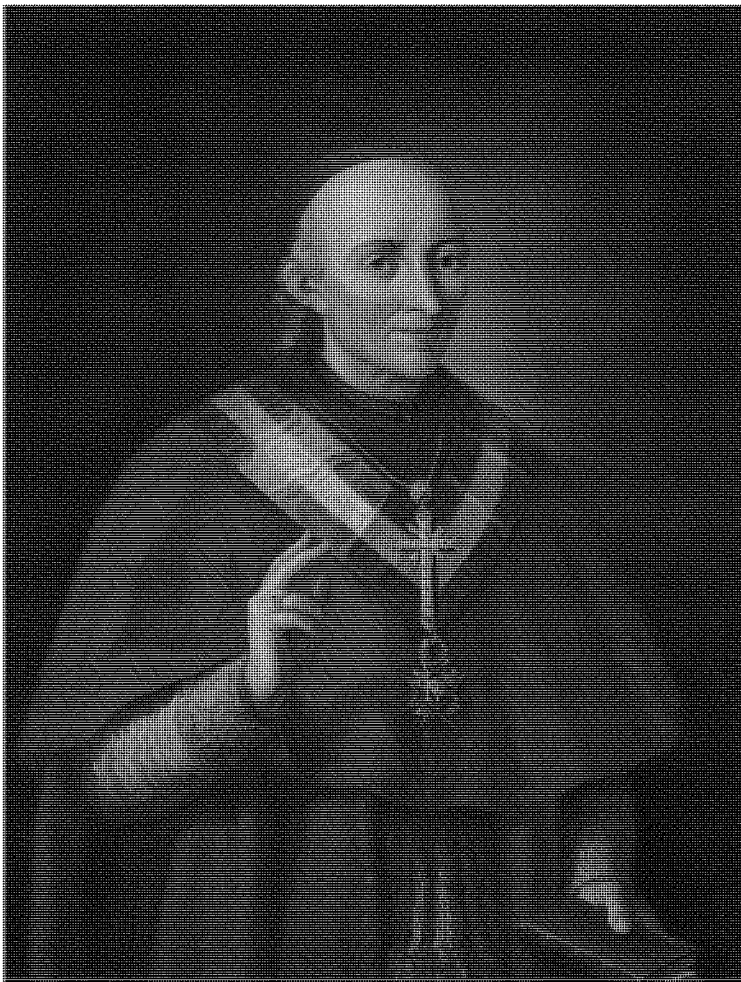
Portrait of a Jesuit Saint: San Francisco de Borja, 1726



The merited odium which has overtaken the Inquisition, usually officered by Dominicans, has induced the Jesuits, whose own controversial method has for the most part been different, to disclaim all connection with that tribunal, and to represent their society as free from complicity in its acts. But, in truth, it was Ignatius Loyola himself who procured its erection in Portugal in 1545-6, and F. Nithard, one of the very few cardinals of the society, was inquisitor-general of that kingdom in 1635.

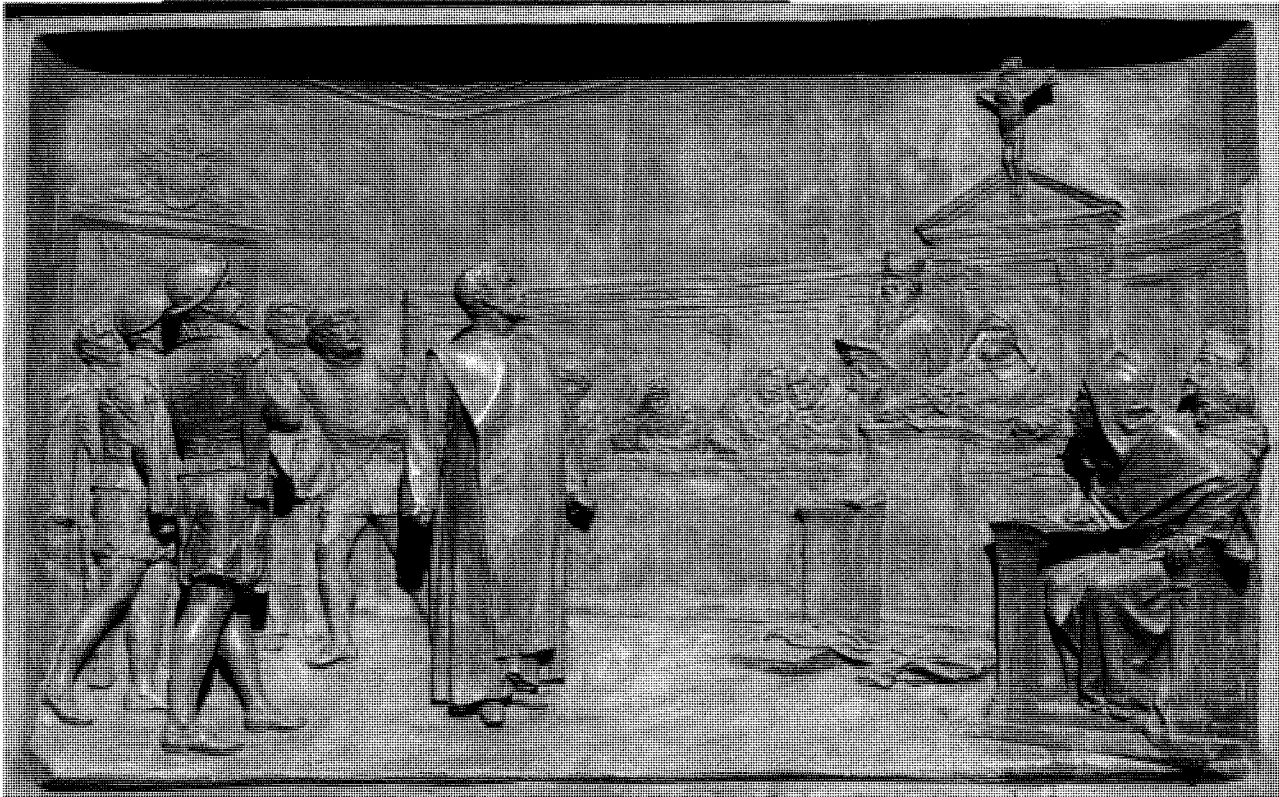
The Founder of the Society of Jesus (Jesuit) Ignatius de Loyola himself procured its [the inquisition] erection in Portugal in 1545-6 (The Encyclopaedia Britannica: A Dictionary of Arts, Sciences, Volume 13)

Photo:- Jesuit Francisco Antonio de Lorenzana, Grand Inquisitor of Spain (1794-1797) - https://en.wikipedia.org/wiki/Francisco_Antonio_de_Lorenzana



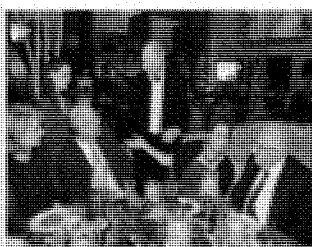


Pope Clement made him a Cardinal Inquisitor, in which capacity he served as one of the judges at the trial of Giordano Bruno, [https://en.wikipedia.org/wiki/Giordano Bruno](https://en.wikipedia.org/wiki/Giordano_Bruno) and concurred in the decision which condemned Bruno to be burned at the stake as a

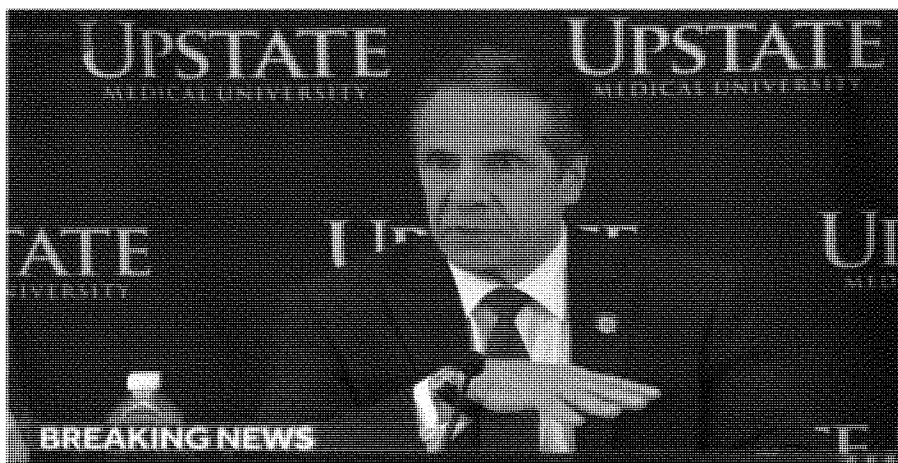


Pope Francis the Jesuit Pope & promoter of the World Lockdown in 2020 with UN Chief António Manuel de Oliveira Guterres .

Remarks by His Holiness The Jesuit Pope Francis and fellow Roman Catholic , United Nations Secretary-General António Guterres - <https://www.youtube.com/watch?v=CePSM3QMkEQ>



UN = World Government / Jacob Rothschild standing, Kissinger seated right.



Jesuit Coadjutor, Andrew Mark Cuomo flattening the curve ,
<https://www.youtube.com/watch?v=m8nCjNk3djc>

Andrew Mark Cuomo born December 6, 1957)
 Roman Catholic

<https://www.nndb.com/lists/758/000094476/>

Executive Summary:- Corona Virus Hoaxer

During his governorship, Cuomo oversaw the passage of a law legalizing same-sex marriage in New York; creation of the United States Climate Alliance, a group of states committed to fighting climate change by following the terms of the Paris Climate Accords; passage of the strictest gun control law in the U.S.; His parents were both of Italian descent; his paternal grandparents were from Nocera Inferiore and Tramonti in southern Italy, while his maternal grandparents were from Sicily His younger brother, Chris Cuomo, is a CNN journalist.

Andrew graduated from Roman Catholic St. Gerard Majella's School in 1971 a private Roman Catholic elementary school <https://www.privateschoolreview.com/st-gerard.../11423> and Archbishop Molloy High School in 1975 in Brooklyn NY https://en.wikipedia.org/wiki/Archbishop_Molloy_High_School He received a B.A. from Jesuit Fordham University in 1979, https://en.wikipedia.org/wiki/Fordham_University Cuomo will not release state death lists, nor did he order autopsies in this public health emergency as required!



Chris Cuomo

Jesuit Coadjutor, Chris Cuomo

AKA Christopher Charles Cuomo

Born: 9-Aug-1970

Birthplace: Queens, NY

Gender: Male

Religion: Roman Catholic

Race or Ethnicity: White

Sexual orientation: Straight

Occupation: Journalist

Nationality: United States

Executive summary: Co-Host, CNN New Day (Corona Virus Hoaxer)

Father: Mario Cuomo (Governor of New York, b. 15-Jun-1932, d. 1-Jan-2015)

Mother: Matilda Raffa

Sister: Margaret I. Cuomo

Brother: Andrew Cuomo (Governor of New York, b. 6-Dec-1957)

Sister: Maria Cuomo (m. Kenneth Cole)

Sister: Madeline Cuomo

Wife: Cristina Greeven (m. 24-Nov-2001, two daughters, one son)

Daughter: Bella

Daughter: Carolina Regina (b. 2011)

Son: Mario (b. 2005)

High School: The Albany Academy

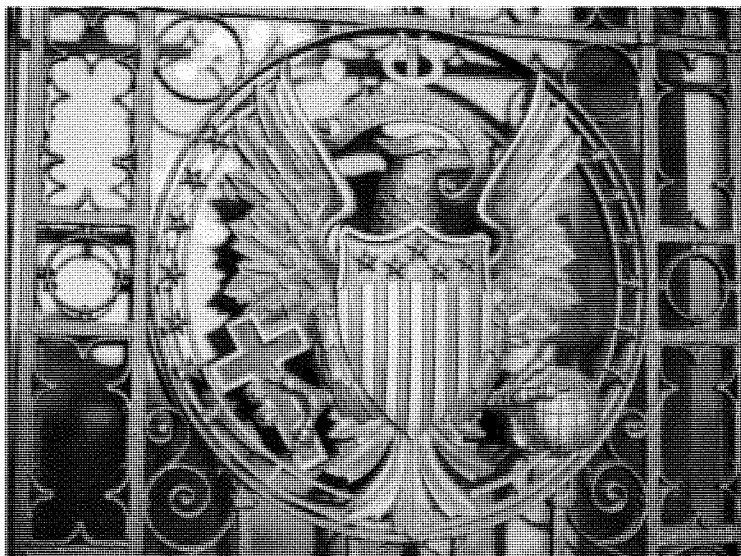
University: BA, Yale University

Law School: JD, Fordham University (1995) (jesuit)



The Dark Side of Andrew Cuomo finally exposed

<https://www.bitchute.com/video/EnV06Fabkq6Z/>



This email has been checked for viruses by Avast
antivirus software.
www.avast.com

From: (b)(6)
Sent: 10/31/2020 12:17:07 PM
To: Martha Bowes MacCallum [Martha.MacCallum@foxnews.com]
CC: Doa Lemon [Don.Lemon@turner.com]; Lesley Rene Stahl [Lesley.Stahl@nbcuni.com]; Michael T Osterholm [mto@umn.edu]; Michael.Osterholm@weforum.org; Rick Bright WHO [brightR@who.int]; john.watson@isirv.org; Maria.Zambon@isirv.org; john.watson@isirv.org; António Guterres [Antonio.Guterres@weforum.org]; António Manuel de Oliveira Guterres [guterres@un.org]; Hilde.Schwab@weforum.org; Klaus Schwab [Klaus.Schwab@weforum.org]; Nicole.Schwab@weforum.org; Olivier.Schwab@weforum.org; Kristen.Welker@nbcuni.com; francis.rocca@wsj.com; Ed [Ed.Mechmann@archny.org]; Judy.McGrath@amazon.com; Melanie [Melanie.Healey@viacbs.com]; Hans [Hans.Vestberg@viacbs.com]; Shari [shari.redstone@viacbs.com]; Kevin [kevin.frazier@viacbs.com]; James Thomas Fallon [jimmy.fallon@nbcuni.com]; Judith.Miller@FOXNEWS.COM; Mercedes Viana Schlapp [mercedes@CoveStrategies.onmicrosoft.com]; Matthew Aaron "Matt" Schlapp ACU Chair [mschlapp@conservative.org]; Noah [Noah.Oppenheim@nbcuni.com]; Mercedes V Schlapp [Mercedes.Schlapp@whitehouse.gov]; Matt Schlapp Cove Strategies [mschlapp@covestrategies.com]; George Robert Stephanopoulos [George.Stephanopoulos@abc.com]; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Alison Morris [Alison.Morris@nbcuni.com]; Lester Don Holt Jr [Lester.Holt@nbcuni.com]; Rachel Anne Maddow [Rachel.Maddow@nbcuni.com]; Kamala [dharris@stanford.edu]; Dana Marie Perino [dana.perino@foxnews.com]; Gregory Gutfeld [greg.gutfeld@foxnews.com]; Juan Antonio Williams [Juan.Williams@foxnews.com]; MARC.CAPUTO@politico.com; brian.stelter@turner.com; hope.hicks@whitehouse.gov; ceoclub@bc.edu; Christopher Wallik [chris.wallace@foxnews.com]; sean.conley@whitehouse.gov; Peter.Alexander@nbcuni.com; Hoda Kotb [Hoda.Kotb@nbcuni.com]; linsey.davis@abcnews.com; Kirill.Dmitriev@rdif.ru; Kirill.Dmitriev@weforum.org; Vladimir.Dmitriev@rdif.ru; Vlad [accredit@gov.ru]; Vladimir Putin [pr@nm-g.ru]; GhebreyesusT@who.int; RyanM@who.int; jon.meacham@time.com; jcohen@aaas.org; investigative@ap.org; Thomas Edward Llamas [Tom.Llamas@abc.com]; tom.llamas@abcnews.com; David.Muir@abcnews.com; David Jason Muir [David.Muir@abc.com]; Cecilia.Vega@abcnews.com; Stephanie.Ramos@abcnews.com; brian.stelter@turner.com; Brian.Rose@londonreal.tv; Kilmeade, Brian [Brian.Kilmeade@foxnews.com]; brian.jones@foxnews.com; Brian.Bennett@latimes.com; Judge Judy [Jeanine.Pirro@FOXNEWS.COM]; Susan Michie [s.michie@ucl.ac.uk]; Professor Sir David Clary [david.clary@magd.ox.ac.uk]; John Penrose [beauperec@parliament.uk]; Susan Diane Wojcicki [SGWEG@slac.stanford.edu]; adrienne.bankert@abc.com; tkoyama@us.ibm.com; Julian.Reichelt@bild.de; Nancy.Harmeyer@foxnews.com; marianna.spring@bbc.co.uk; mark.woolhouse@ed.ac.uk; brian.rose@londonreal.tv; Dana Kozlov [dakozlov@cbs.com]; Brad Edwards [baedwards@cbs.com]; John Bel Edwards [govpress@la.gov]; Richard M Novak MD [rmnovak@uic.edu]; Brett P. Giroir [ASH@hhs.gov]; Trey.Gowdy@nelsonmullins.com; trey.gowdy@foxnews.com; Harris Kimberly Faulkner [harris.faulkner@foxnews.com]; JMUSTIAN@ap.org; theodore.long@hms.harvard.edu; theodore.long@yale.edu; ted.long@nychealthandhospitals.org; neil.vora@cdc.gov; neil.vora@nychealthandhospitals.org; Kamala Devi Harris [Kamala_Harris@harris.senate.gov]; Kamala Devi Harris [chris_harris@harris.senate.gov]; dharris@stanford.edu; alex.hogan@foxnews.com; iain.begg@lse.ac.uk; fiona.watt@kcl.ac.uk; fiona.watt@mrc.ukri.org; Elvira.Nabiullina@rdif.ru; Sergei.Ivanov@rdif.ru; Andrey.Belousov@rdif.ru; Maksim.Oreshkin@rdif.ru; Dominique.Strauss-Kahn@rdif.ru; Vladimir.Dmitriev@rdif.ru; gintsburg@gamaleya.org; pronin@gamaleya.org; Michelle.Tuzee@abc7.com; marc.brown@abc7.com; lisa.boothe@foxnews.com; smilligan@usnews.com; HGodman@usnews.com; Gordon.Robertson@cbn.com; lori.johnson@cbn.com; KGO-TV.Programming@abc.com; Kimberly.Hunt@10news.com; leon.clark@10news.com; Doris.Lewis@10news.com; bbloom@hsph.harvard.edu; florian.krammer@mssm.edu; Bai.Yansong@cctv.com; Edward.Law@cctv.com; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; Joel Scott Osteen [press@siriusxm.com]; Victoria L Iloff [advertising@siriusxm.com]; joel@lakewoodchurch.com; Lloyd E Campbell [lcampbell@spencerstuart.com]; Charles Philip Arthur George [fma@weforum.org]; Muriel Elizabeth Bowser [eom@dc.gov]; margaret.satterthwaite@nyu.edu; Andrew Mark Cuomo SJ [Press.Office@exec.ny.gov]; tara.brown@nine.com.au; 60Minutes@nine.com.au; naomi.shivaraman@nine.com.au; tdikeos@nine.com.au; Scott Gottlieb illuminati [info@illumina.com]; Scott.Gottlieb@aei.org; Scott Gottlieb [Brendan.Rascius@aei.org]; steve@apiject.com; jay@apiject.com; Clarisse Mason [masonc@who.int]; David Malpass [DMalpass@ifc.org]; David Wilson [dwilson@worldbank.org]; Mamadi Yilla [yillam2@state.gov]; staff@the-asci.org; grotenfelt.nora@gmail.com; nathalie.macdermott@kcl.ac.uk; RT-US@rttv.ru; rick.sanchez@rttv.ru; justin@propublica.org; lsullivan@npr.org; prothma1@jhmi.edu; gail.mcGovern@redcross.org; david.meltzer@redcross.org; gail.mcGovern@dteenergy.com; gail.mcGovern@paypal.com; eliot_cohen@jhu.edu; david.rubenstein@jhu.edu; gail.mcGovern@jhu.edu; Mercedes.Lopez-Blanco@archny.org; Timothy.Dolan@archny.org; Robert.t.Ritche@archny.org; Ed.Dougherty@archny.org; Donald.Haggerty@archny.org;

Wolf Isaac Blitzer [wolf.blitzer@turner.com]; Alison.Morris@nbcuni.com; Emily.Maitlis@bbc.co.uk; David.Grossman@bbc.co.uk; lmenninger@hmflaw.com; mcohen@cohengresser.com; Susanna.Reid@itv.com; piers.morgan@itv.com; Thomas J Kavalier [tkavalier@cahill.com]; news@highlandscurrent.org; jmeisner@tribune.com; eva.pilgrim@abc.com; jc2287@cumc.columbia.edu; mblabate@cicu.org; Kadlec, Robert P (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=70539a2f88924cc8913781ea74278b12-HHS-Robert.]; Azar, Alex (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4db7abd56a7e478883f5cd8e2e8a18d3-HHS-Alex.Az]; Stanley.Erck@novavax.com; umihighereducation@jesuits.org; Ellison.Barber@nbcuni.com; emily.badger@nytimes.com; Vernon Coleman [press@vernoncoleman.com]; boris.johnson@weforum.org; Anthony Charles Lynton Blair [info@institute.global]; tony.blair@weforum.org; melanie.walker@weforum.org; mwalker@gatesfoundation.org; BNikolic@gatesfoundation.org; David.Malpass@worldbank.org; Melanie.Walker@ama-assn.org; rachel.scott@abc.com; c.whitty@nhs.net; Andrew.Witty@uhg.com; patrick.vallance@number10.gov.uk; Sir Patrick Vallance [info@acmedsci.ac.uk]; David_S_Wichmann@uhc.com; Ken.Ehlert@uhc.com; Dirk_McMahon@uhc.com; mediacontact@questdiagnostics.com; Hinton, Denise [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=85feca0be0694803be6030e97c7b4adb-HINTOND]; Stephen.Hemsley@uhg.com; hemsleyc@fordhamprep.org; tribe@law.harvard.edu; triversr@gmail.com; dersh@law.harvard.edu; lawrence_summers@hks.harvard.edu; lindsay_jones@hks.harvard.edu; enew@fas.harvard.edu; elisa.new@poetryinamerica.org; Boris.Nikolic@twistbioscience.com; Boris.Nikolic@editasmed.com; info@editasmed.com; boris.nikolic@biomaticscapital.com; Julie.Sunderland@biomaticscapital.com; Andrew.Pollard@ovg.ox.ac.uk; dale.woods@nbcuni.com; deedee.myers@warnerbros.com; Jeremy.Farrar@cepi.net; Joachim.Klein@cepi.net; Bryant, Paula R (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eb42f9318014bbb8c14d39ef311d8f9-HHS-paula.b]; Idro.Seferi@dw.com; sarah.mabrouk@dw.com; pisarna@tanja-fajon.eu; maja.kezunovickrasek@tanja-fajon.eu; Tanja.Fajon@ep.europa.eu; jure.tanko@ep.europa.eu; Sasa.Dragojlo@balkaninsight.com; Aleksandar.Vucic@weforum.org; tanja.fajon@europarl.europa.eu; Michelle Powers Net NY TV [michelle.powers@netny.tv]; Stanley.Plotkin@pennmedicine.upenn.edu; Lisa.Bellini@pennmedicine.upenn.edu; Leonard.Hayflick@ucsf.edu; Marie.Bernard@nih.gov; Gruber, Marion [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=019cd2669c7048f7a116d72b7682de44-gruber]; Jim.Sciutto@turner.com; andrewkaufmanmd@gmail.com; Jenny Anne Durkan [jenny.durkan@seattle.gov]; Sean Patrick Hannity [sean.hannity@foxnews.com]; kevin.corke@foxnews.com; dan.springer@foxnews.com; VladimirDuthiers [DuthiersV@cbsnews.com]; Vladimir Putin [pr@nm-g.ru]; Vlad [accredit@gov.ru]; Narendra.Modi@pmindia.gov.in; Eric Frederick Trump [etrump@trumporg.com]; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; jfair@tamu.edu; mwelsh@tamu.edu; Ellen.DeGeneres@nbcuni.com; Subha Nagalakshmi Munchetty-Chendriah [Naga.Munchetty@bbc.co.uk]; William Jefferson Blythe III [press@clintonfoundation.org]; Chancellor Hillary Diane Rodham Clinton [comms.office@qub.ac.uk]; Hillary Diane Rodham Cinton [philippe.reines@bgsdc.com]; Joseph Robinette Biden Jr [jbash@bgsdc.com]; Kate.Bedingfield@joebiden.com; Katherine Anne Couric [Katie.Couric@turner.com]; Katherine Jean "Kate" Bolduan [Kate.Bolduan@turner.com]; Linsey.Davis@abc.com; Tom.Llamas@abc.com; Steve Aduato [Mary.Gamba@steveadubato.org]; Heiko Maas [Heiko.Maas@auswaertiges-amt.de]; Matt Hancock UK Health Secretary [matt.hancock@weforum.org]; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@georgetown.edu; John.DeGioia@weforum.org; Tania.Tetlow@loyno.edu; julia.macfarlane@abc.com; emma.gormley@itv.com; The Rt Hon Boris Johnson MP [press@number10.gov.uk]; Alexander Boris de Pfeffel Johnson [boris.johnson.mp@parliament.uk]; Alisyn.Camerota@turner.com; Alison.Morris@nbcuni.com; Ron DeSantis [media@eog.myflorida.com]; His Worship S Khan [dexter@dexterhenry.co.uk]; Craig Melvin [Craig.Melvin@nbcuni.com]; Shannon Cake [scake@wptv.com]; NHogensen@scripps.com; Gregory Wayne Abbott [Press@GregAbbott.com]; Alfred Charles Sharpton Jr. [media@nationalactionnetwork.net]; Jennifer Mayerle [jlmayerle@wcco.com]; Jens.Spahn@weforum.org; Daniel.Funke@burda.com; Eckart.Bollmann@burda.com; hubert.burda@burda.com; matt.weiss@burda.com; Philipp.Welte@burda.com; friede.springer@axelspringer.com; Mathias.Doeppfner@axelspringer.com; MDoepfner@netlfix.com; Borge Brende [Borge.Brende@weforum.org]; Kristalina Ivanova Georgieva-Kinova [Kristalina.Kinova@weforum.org]; Al Gore [al.gore@weforum.org]; David M Rubenstein [david.rubenstein@weforum.org]; Heizo Takenaka [Heizo.Takenaka@weforum.org]; Jack Ma [jack.ma@weforum.org]; Matt.Damon@weforum.org; yann.zopf@weforum.org; Zhu Min [Zhu.Min@weforum.org]; forumusa@weforum.org; Lester Don Holt Jr [Lester.Holt@nbcuni.com]; Dr. Pampee Young [media@redcross.org]; brian.stelter@turner.com; fns@foxnews.com; Foxnewssunday2@FOXNEWS.COM; Thomas V Inglesby MD [tinglesby@jhu.edu]; Prof Charles D Todd [ctodd@jhu.edu]; Charles David Todd [chuck.todd@nbcuni.com]; Paul B

Rothman MD John Hopkins [crothman@jhu.edu]; Eliot A Cohen [ecohen@jhu.edu]; media@gatesfoundation.org; tvstudio@who.int; lindmeierch@who.int; SalisburyM@who.int; GhebreyesusT@who.int; Joe.Scarborough@nbcuni.com; Gina.Kolata@nytimes.com; stanley@stanleyjohnson.org; hannah.beer@curtisbrown.co.uk; mara.gay@nytimes.com; maggie.haberman@nytimes.com; editor@churchmilitant.com; michael.voris@churchmilitant.com; lawrence.Gostin@weforum.org; Lawrence Oglethorpe Gostin [gostin@law.georgetown.edu]; douglas.emhoff@dlapiper.com; beth.daley@theconversation.com; Madeleine.Rivera@foxnews.com; Geraldo.Rivera@foxnews.com; JDeGioia@carnegie.org; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@weforum.org; John.DeGioia@georgetown.edu; Matteo Bruni [Matteo.Bruni@vatican.va]; Alexander.Gintsburg@rdif.ru; Alina.Kabaeva@nm-g.ru; Andrey.Belousov@rdif.ru; Kirill.Dmitriev@rdif.ru; Kruglova Anna M. [amkruglova@rttv.ru]; Maksim.Oreshkin@rdif.ru; Mikhail Albertovich Murashko [NabatovaEA@rosminzdrav.ru]; Nogaeva Oksana G. [ognogaeva@rttv.ru]; ministry@mid.ru; press@rosminzdrav.ru; Dr. Margaret Chan Director General of WHO [chanm@who.int]; Jane Pauley [PauleyS@cbsnews.com]; Susan Zirinsky [SusanZ@cbsnews.com]; Martha Teichner [TeichnerM@cbsnews.com]; Brown, Jeremy (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6e502731145c4045b5e088df526a710b-HHS-jeremy.]; nina.shore@nih.gov; Ward, Jackie M (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9195352dc4c040ca9e98a5434f9b0cca-HHS-jackie.]; Gareth Genner [Gareth.Genner@truststamp.ai]; christoph.jumpelt@dw.com; Karl.Juesten@dw.com; Vicky.Nguyen@nbcuni.com; Constanze.Stelzenmueller [CStelzenmueller@brookings.edu]; sburnett@ap.org; Helge.Braun@bundesregierung.de; Angela.Merkel@bundestag.de; Horst.Seehofer@bundestag.de; andreas.scheuer@bundestag.de; Jens.Spahn@bundestag.de; stefan.kaufmann@bundestag.de; Heiko.Maas@bundestag.de; Helge.Braun@bundestag.de; Helge.Braun@bundeskanzlerin.de; Christine.Lambrecht@bundestag.de; Olaf.Scholz@bundestag.de; Wolfgang.Schauble@bundestag.de; Steffen.Seibert@bpa.bund.de; ulrike.demmer@bpa.bund.de; martina.fietz@bpa.bund.de; Margaret.Chan@Weforum.org; pierre.thomas@abcnews.com; David.Muir@abc.com; matt.gutman@abcnews.com; dmitry.chernychenko@gazprom-media.com; ian.dunt@politics.co.uk; Vanessa.Kortekaas@ft.com; Christopher.Ruddy@newsmax.com; Michelle.Malkin@newsmax.com; darren.beattie@hudson.org; heather.nauert@hudson.org; douglas.feith@hudson.org; lewis.libby@hudson.org; leserservice@funkemedien.de; Ove.Saffe@funkemedien.de; Andreas.Schoo@funkemedien.de; matt.murray@wsj.com; Michael.Wueller@wsj.com; jomalleydillon@joebiden.com; roflaherty@joebiden.com; john.pence@donaldjtrump.com; lara.trump@donaldjtrump.com; Bill.Stepien@donaldjtrump.com; Mercedes.Schlapp@donaldjtrump.com; Nose Power [press@joebiden.com]; Paul.Sagan@propublica.org; jill.Abramson@propublica.org; Stephen.Hoge@modernatx.com; Stéphane Bancel [media@modernatx.com]; Alan Jay Lichtman [lichtman@american.edu]; Lesley Stahl [media@bilderbergmeetings.org]; Nancy Cooper [nancy.cooper@newsweek.com]; exclusive@the-sun.com; Anthony Stephen Tony Fauci [anthony.fauci@nih.gov]; TonyDokoupil [DokoupilT@cbsnews.com]; tony.hall@bbc.co.uk; Anthony Mason [MasonA@cbsnews.com]; Michael Anthony Strahan [michael.strahan@abc.com]; George.Murdoch@foxnews.com; rupert.murdoch@fox.com; Lachlan.Murdoch@fox.com; rbrooks@newscorp.com; Leland Vittert [leland.vittert@foxnews.com]; His Eminence Timothy Cardinal Dolan [maryellen.oconnor@archny.org]; cathy.newman@channel4.com; Eric Frederick Trump [etrump@trumporg.com]; etrump@maralagoclub.com; peter.doocy@foxnews.com; jesse.watters@foxnews.com; Tucker Swanson McNear Carlson [tucker.carlson@foxnews.com]; Neil Patrick Cavuto [neil.cavuto@FOXNEWS.COM]; shannon.ryan@disney.com; Xi.Jinping [Wang.Yi@fmprc.gov.cn]; Wolf Blitzer [wolf.blitzer@turner.com]; Dana Ruth Schwartz [dana.bash@turner.com]; Jeff Zucker [Jeff.Zucker@turner.com]; Stuart.Varney@foxbusinessnews.com; chris_harris@harris.senate.gov; Dan_Holler@rubio.senate.gov; david_popp@mccconnell.senate.gov; Justine_Sanders@rubio.senate.gov; Kamala Harris [Kamala_Harris@harris.senate.gov]; Tony.Gallagher@the-sun.com; mmflint@facebook.com; tom@tomdispatch.com

Subject: Martha:- re Allan Jay the light weight wrestler - Biden's slobbery mask in Wisconsin, A career with legs (Lesley Stahl) & the Corona Hoax - the Rhesus Factor Deception - iGen, LiFi, Operation Dark Winter 2020



Historian who correctly predicted every election since 1984 makes his call
<https://www.youtube.com/watch?v=z0PDVeBRLUA>



Hi Martha,

Haven't written you in a while, hope you're keeping well...

Just a quickie to comment on your interview and to attach a few news links which you may find interesting.

Anyway, saw your interview of Allan Jay Lichtman , who is Jewish, was born in the Brownsville neighborhood of Brooklyn in New York City. He graduated from Stuyvesant High School. Lichtman received his B.A. degree from Brandeis University in history in 1967 Lichtman began teaching at American University in 1973, rising to chair of the History

Department,

Lichtman authored the 2017 book *The Case for Impeachment*, laying out multiple arguments for the impeachment of Donald Trump. He is the author of the forthcoming book "Repeal the Second Amendment".

Lichtman announced his candidacy for the Democratic nomination for United States Senate from Maryland in the 2006 election to replace Senator Paul Sarbanes; Lichtman lost in the primary election to Ben Cardin, receiving 6,919 votes (1.2%), landing him in 6th place in a field of 18. In October 2012, *The Washington Post* reported that he was still paying off a mortgage he took out in order to help fund his campaign

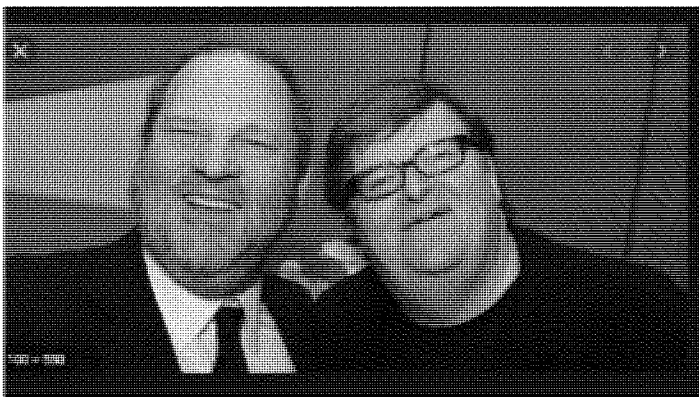
--Allan Jay Lichtman, American University Faculty

<https://www.american.edu/cas/history/faculty>

By the way, Lichtman got it wrong on GORE, and helped decide the winner George W. Bush back then.

- "He missed the Bush election, he said Gore would win, but he says he was correct because Gore won the popular vote. Last time I checked we have "the electoral college" deciding U.S. elections..

I tend to side with Michael Moore on this:-



Michael Moore says Donald Trump is on course to win in November because 'enthusiasm in his base is off the charts' - as new poll shows the president's popularity rising in swing states

Four years after predicting Trump's win, Michael Moore is warning it could happen again after polls show his numbers rising in swing states

<https://www.dailymail.co.uk/news/article-8678039/Michael-Moore-warns-Trump-win-poll-shows-popularity-swing-state-voters-rise.html>

Whatever they're saying the Biden lead is, cut it in half, right now, in your head. Cut it in half, and now you're within the four-point margin of error."

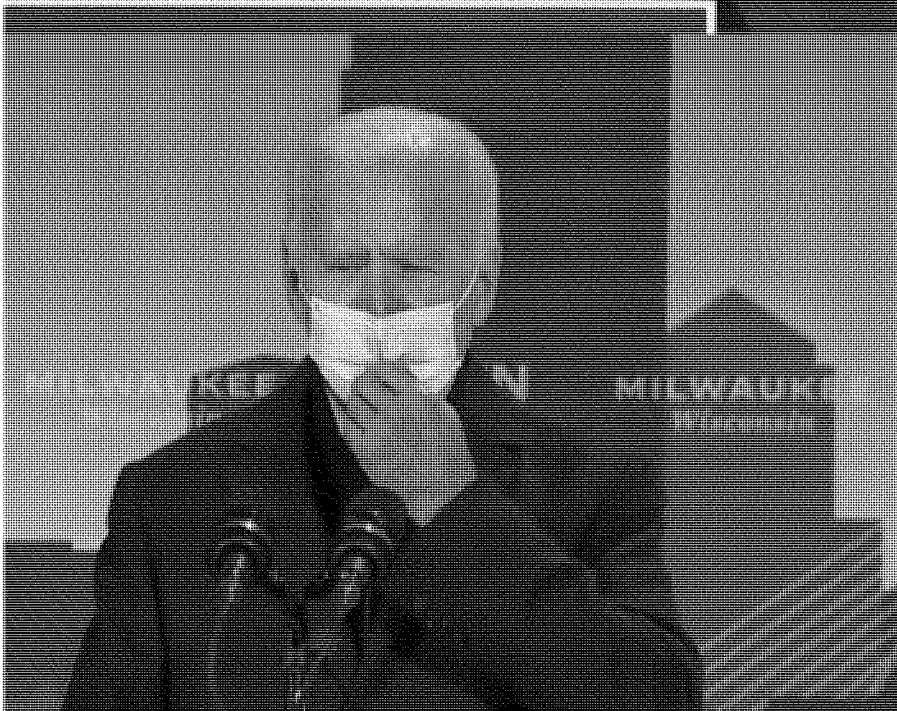
<https://thehill.com/hilltv/rising/523398-michael-moore-says-dont-believe-polls-trump-vote-always-being-undercounted>

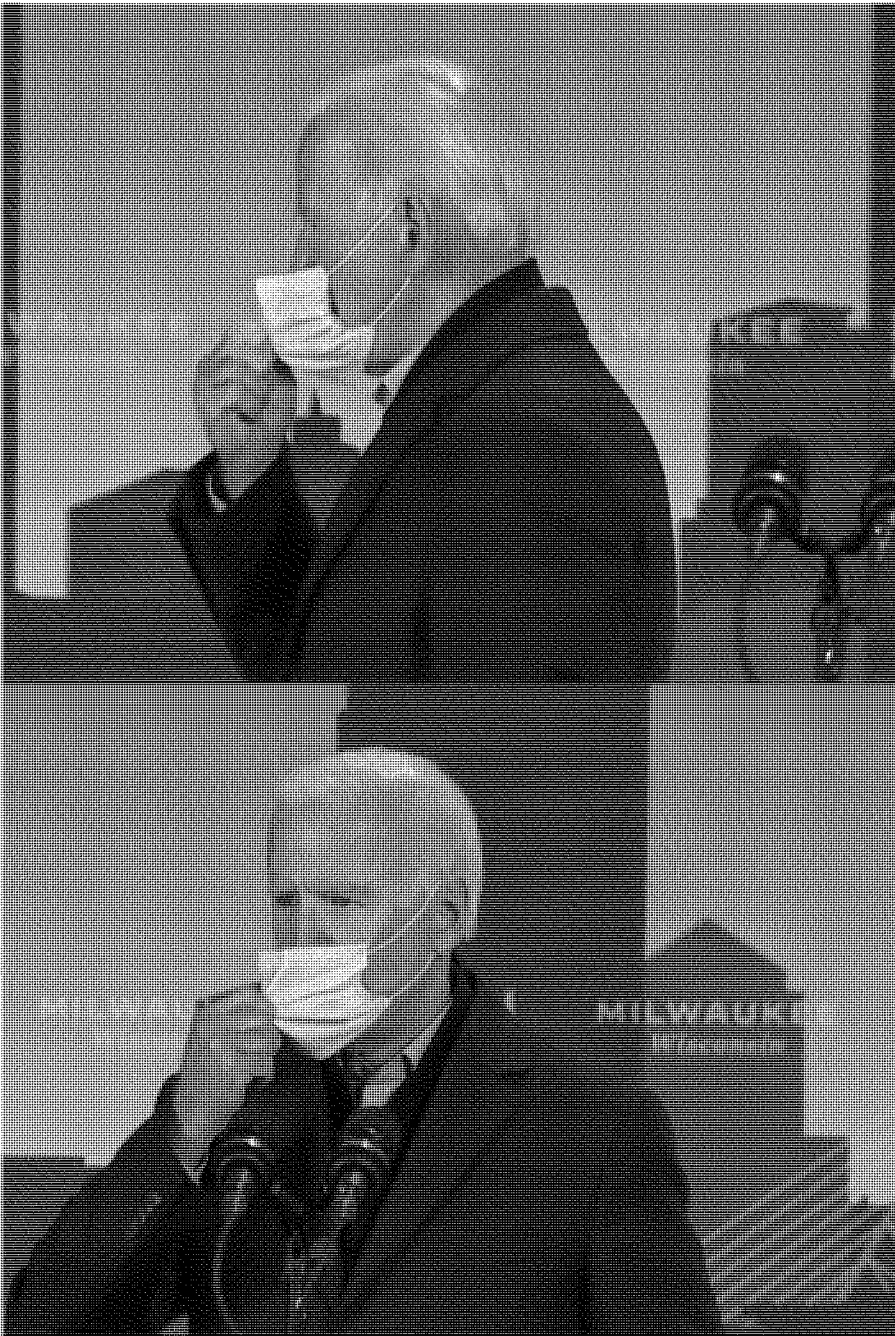
Here are the links.

Wishing you all the very best, Warm Regards,

(b)(6)

+++++





Biden is the kind of idiot that wears a mask in their car alone.

Off your hands off that mask!

Count how many times Biden touches his surgical mask in thirty minutes and then on the way out he's holding it on. Hehe.

IF Joe Biden is Leading by 18 Pts Why is he Campaigning in Wisconsin??

Something smells fishy

I thought masks were for when you can't social distance..

What a joke! if this is a true virus around you, you would stop breathing before you finish your speech.

Ask a health care worker on how to properly use one

Biden holds campaign event in Wisconsin

78,979 views

•Streamed live 10 hours ago

https://www.youtube.com/watch?v=wMF-618_rfY

Trump holds 'Make America Great Again Victory Rally' in Wisconsin

496,482 views

•Streamed live 14 hours ago

<https://www.youtube.com/watch?v=FBj9wflyYd0>





78 year old Pervert Joseph Robinette Biden, Jr. in plain sight NOBODY LIKES THE TRUTH IT'S JUST BITTER

<https://www.youtube.com/watch?v=OhX9eCznGsk>

Joseph Biden

AKA Joseph Robinette Biden, Jr.

Born: 20-Nov-1942

Birthplace: Scranton, PA

: Pro Abortion, Anti-Gun, Gay Pride, Roman Catholic - <https://www.nndb.com/lists/758/000094476/>

Brain Surgery Walter Reed Army Medical Center (May-1988) -

<https://www.nndb.com/event/595/000226914/>

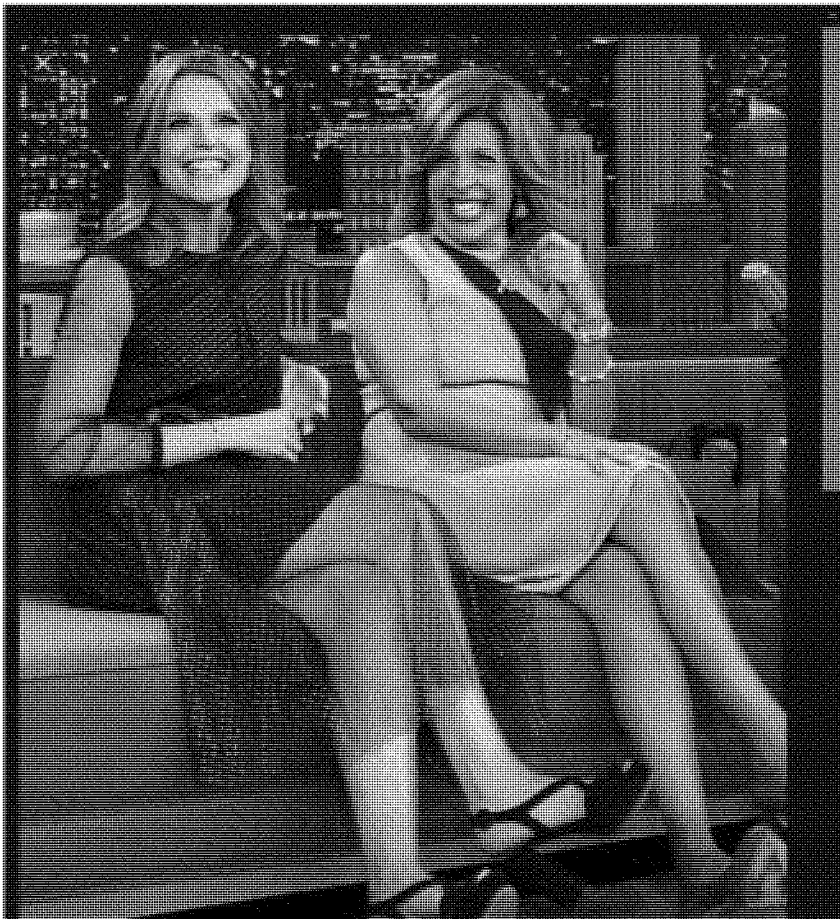
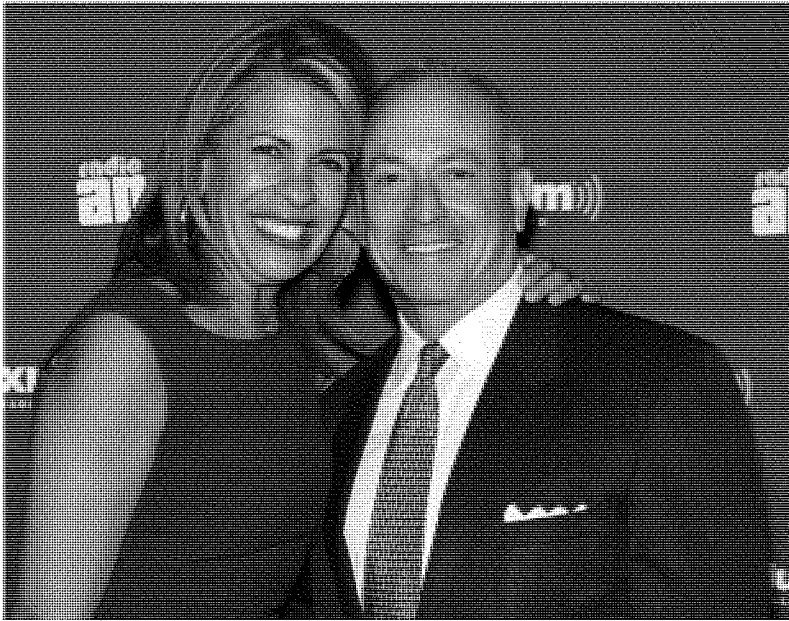
Aneurysm two - <https://www.nndb.com/event/189/000071973/>

Draft Deferment: Vietnam (1963-68, five 2-S deferments, ruled 1-Y in 1968)

Wife: Jill Jacobs Biden , Pro Abortion Roman Catholic (m. 17-Jun-1977, one daughter)

Daughter: Ashley Blazer Biden (b. 8-Jun-1981)

<https://www.nndb.com/people/441/000173919/>





Fallon and NBC's manly duo Sam Guthrie and Hod Kotb
https://www.youtube.com/watch?v=_XtqHYTl7aw

James Thomas Fallon



Fallon is a Roman Catholic. Fallon told the National Public Radio: "I just, I loved the church. I loved the idea of it. I loved the smell of the incense. I loved the feeling you get when you left church. I loved like how this priest can make people feel this good. I just thought it was – I loved the whole idea of it
<https://www.nndb.com/people/335/000026257/>



Jimmy Savile

AKA James Wilson Vincent Savile <https://www.nndb.com/people/435/000357361/>

Born: 31-Oct-1926

Birthplace: Leeds, West Yorkshire, England

Died: 29-Oct-2011

Roman Catholic

<https://www.nndb.com/lists/758/000094476/>

Executive Summary:-

He had the Cross of Merit of the Order pro merito Melitensi.

The Order pro Merito Melitensi is the order of merit of the Sovereign Military Order of Malta, established in 1920. It is awarded to recipients who have brought honour to the Sovereign Military Order of Malta, promoted Christian values and for charity as defined by the Roman Catholic Church.

+++++

Athenaeum Club (London) 1984 - <https://www.nndb.com/org/461/000162972/>

Officer of the British Empire 1971 - <https://www.nndb.com/honors/021/000044886/>

Knighthood 1990 - <https://www.nndb.com/honors/642/000052486/>

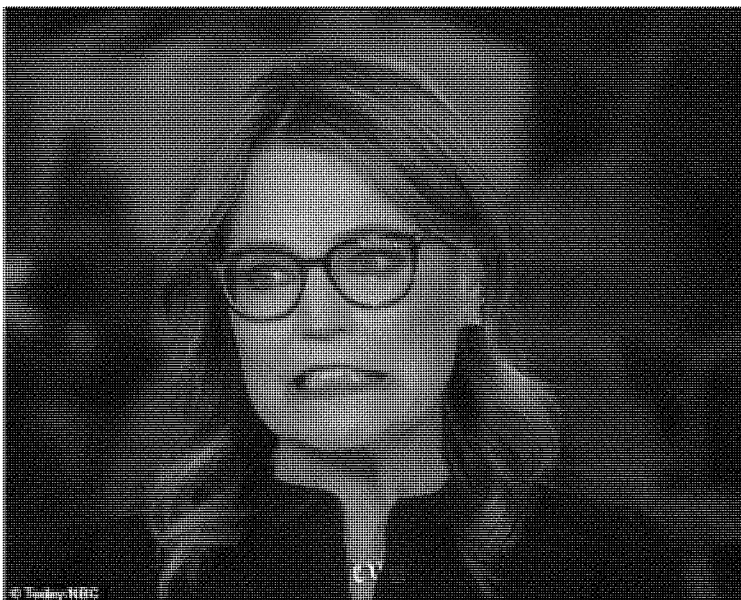
Author of books:

As It Happens (1974, memoir)

God'll Fix It (1979)

Louis Theroux S2-When Louis Met WLM S01E01 - Jimmy Savile

<https://www.dailymotion.com/video/x6brsit>



The Untold Truth Of Savannah Guthrie

<https://www.youtube.com/watch?v=aB5KiiRKilY&list=LLh3QTYrarqrmwgPYeVUsC9Q&index=3938>

Jeffrey Epstein Accuser Details Recruiting And ‘Grooming’ Process | Sam Guthrie - TODAY -

https://www.youtube.com/watch?v=CYNnkAJHk_w

Savannah Guthrie <https://www.nndb.com/people/166/000348119/>

Born: 27-Dec-1971

Birthplace: Tucson, AZ

JD Jesuit Georgetown University

<https://www.nndb.com/edu/533/000068329/>

Spouse:- Michael Feldman (born October 14, 1968) an American public relations and communications consultant and a former Democratic political adviser. Feldman was Vice President Al Gore’s traveling chief of staff during the 2000 presidential election campaign.

[https://en.wikipedia.org/wiki/Michael_Feldman_\(consultant\)](https://en.wikipedia.org/wiki/Michael_Feldman_(consultant))



Today I saw Lesley Stahl on "CBS Sunday Morning," and I just discovered that she is 76 years old. That is all.



60 Minute Presenter - 78 year old - Lesley Rene Stahl - A career with legs -

Today I saw Lesley Stahl on "CBS Sunday Morning," and I just discovered that she is 78 years old. That is all.
<https://moviemovieblogblog.wordpress.com/2018/02/11/a-career-with-legs/>

Lesley Stahl shows off her 78 year old legs and gets tuff with President Donald Trump - and pushes MASKS - ((aSatanic exercise in mass humiliation.))

http://www.zephaniah.eu/index_html_files/Our%20Governments%20are%20Lying%20Face%20Masks%20cause%20Real%20Long%20Term%20Harm%20to%20Our%20Children.pSdf

Look at the bias, hatred and rudeness on behalf of 60 Minutes , against President Trump - while they treat Biden with kid gloves -

Trump cuts through her hype and cuts interview short -
<https://www.facebook.com/DonaldTrump/videos/350524406214941/?t=368>

Lesley Stahl

Lesley Rene Stahl

Jewish -

Born: 16-Dec-1941 - (age 78)

Birthplace: Lynn, MA

Stahl was born in 1941 to a Jewish family in the Boston suburb of Lynn, Massachusetts, and was raised in Swampscott, Massachusetts.

Father: Lou Stahl (paint salesman, d. 1994)

Mother: Dolly

Brother: Jeffrey

Boyfriend: Bob Woodward (briefly)

Boyfriend: Bob Dole (dated a few times)

Husband: Aaron Latham (m. 1977)

Daughter: Taylor (b. Aug-1977)

Bilderberg Group - <https://www.nndb.com/org/514/000042388/>

--30 May - 2 June 2019 MONTREUX, SWITZERLAND--

<https://www.bilderbergmeetings.org/meetings/meetings-overview.298680>

A list of expected at the Bilderberg Group 2019

https://en.wikipedia.org/wiki/2019_Bilderberg_Conference

Council on Foreign Relations - <https://www.nndb.com/org/505/000042379/>

Administrator: Trustee, Wheaton College Massachusetts - <https://www.nndb.com/edu/635/000082389/>



In a file photo from September 2015, Pope Francis greets Cardinal Theodore McCarrick with a hug
https://en.wikipedia.org/wiki/Theodore_McCarrick

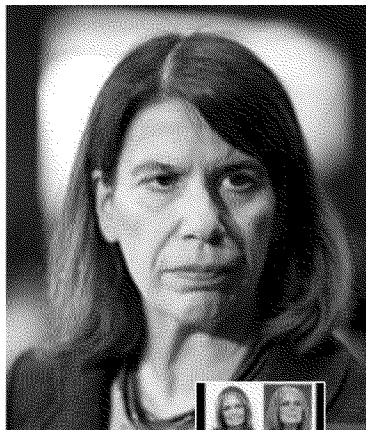
Jesuit POPE FRANCIS Pushes Gay /Lesbian /Transgender Agenda - as part of the Satanic New World Order -
<https://www.youtube.com/watch?v=gj1rFO9Klrs>

The Rhesus Factor DECEPTION (Rh-) RH Negative Blood Type (FULL VERSION)

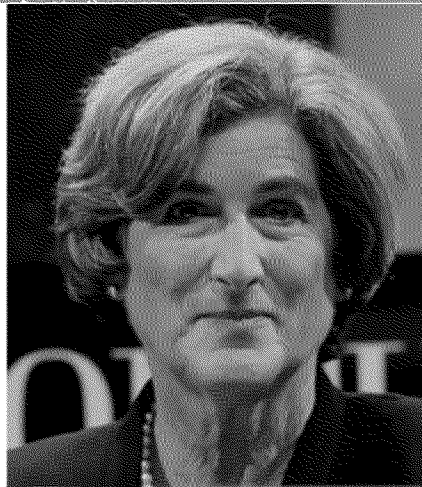
https://www.youtube.com/watch?v=u23ZcgZ2HJI&list=PLO9hCRgY1R-IiW72rwG8eyXDjeP1pX_md&index=8

AGE OF DECEIT - The TRANSagenda + Breeding Program (FULL Version)

<https://www.youtube.com/watch?v=vqtINuhiT4c>



Barbara Desoer,
CEO of Citibank



Denise Morrison,
CEO of Campbell Soup



Transgender Ella Grasso (1919-1981),
first 'woman' governor of Connecticut



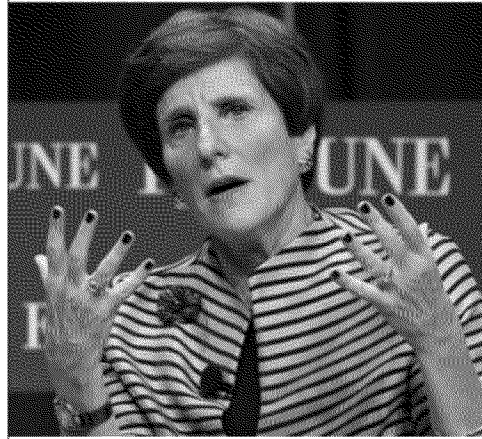
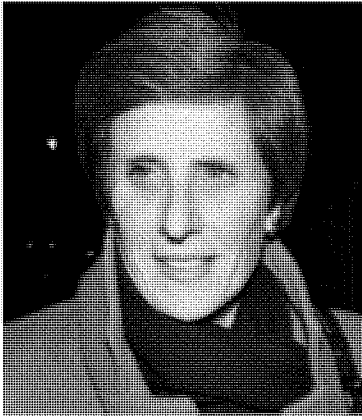
Melanie Healey,
former Group President of
Procter & Gamble.
Pose on left includes Horus Eye
pendant and Illuminati 'pyramid'
hand-sign.



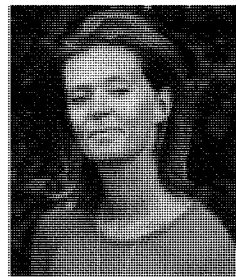
@RELIABLESOURCES

NEWLY POPULAR ON YOUTUBE: HAND-WASHING VIDEOS





Irene Rosenfeld,
former CEO of Kraft Foods



Princess Birgitta of Sweden

Transvestigation - Royalty, CEO's, Feminist Icons

[https://www.youtube.com/watch?v=wK3-](https://www.youtube.com/watch?v=wK3-ixRTe_Y&list=PLj2l0hGTjGBfYPprVOYiRLCsMQ3pQkn6w&index=9&t=0s&app=desktop)

[ixRTe_Y&list=PLj2l0hGTjGBfYPprVOYiRLCsMQ3pQkn6w&index=9&t=0s&app=desktop](https://www.youtube.com/watch?v=wK3-ixRTe_Y&list=PLj2l0hGTjGBfYPprVOYiRLCsMQ3pQkn6w&index=9&t=0s&app=desktop)

Androgyny, European Royalty, and the War on Gender

The British Luciferians - (The Luciferian Elite who control the UK)

The Illuminati Program of Universal Gender Confusion -

http://www.zephaniah.eu/index_htm_files/Androgyny,%20Royalty,%20and%20the%20War%20on%20Gender.pdf

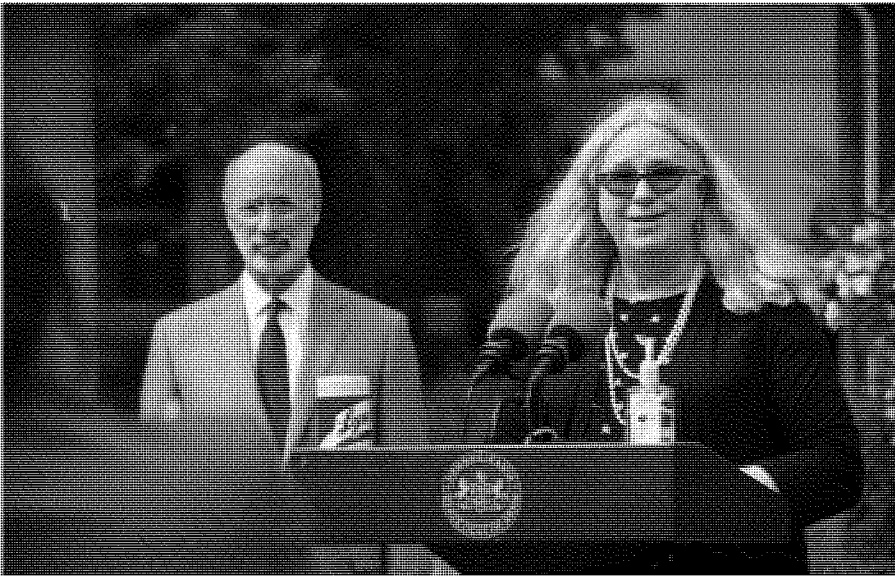


Richard L. Levine
Wakefield, Massachusetts

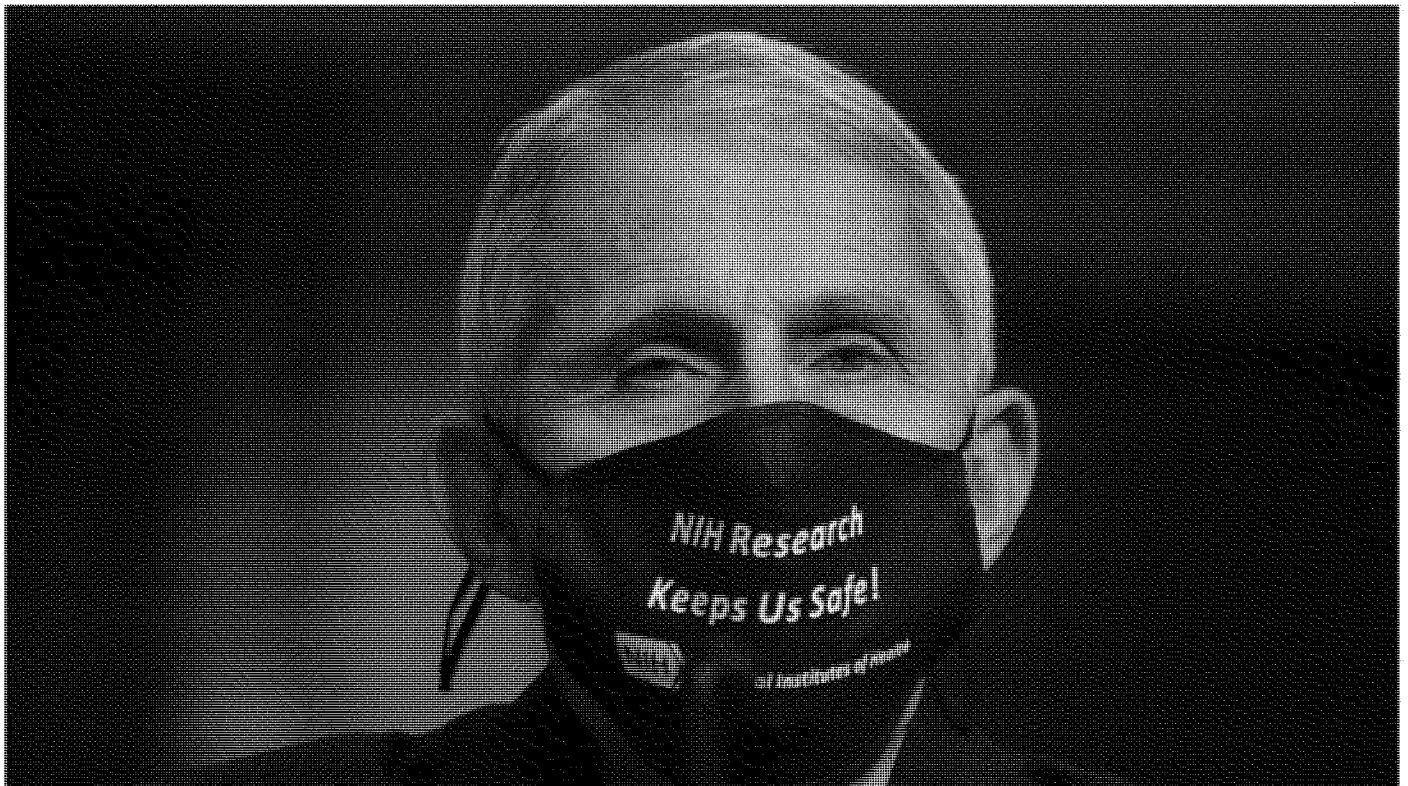


Dr. Rachel L. Levine
Pennsylvania Secretary of Health
<https://fact-files.com/dr-rachel-levine-wiki/>

Meet Richard L. Levine, the Health Secretary Leading the Coronavirus Battle in Pennsylvania she/he appears on television with Governor Tom Wolf regularly



https://en.wikipedia.org/wiki/Rachel_Levine



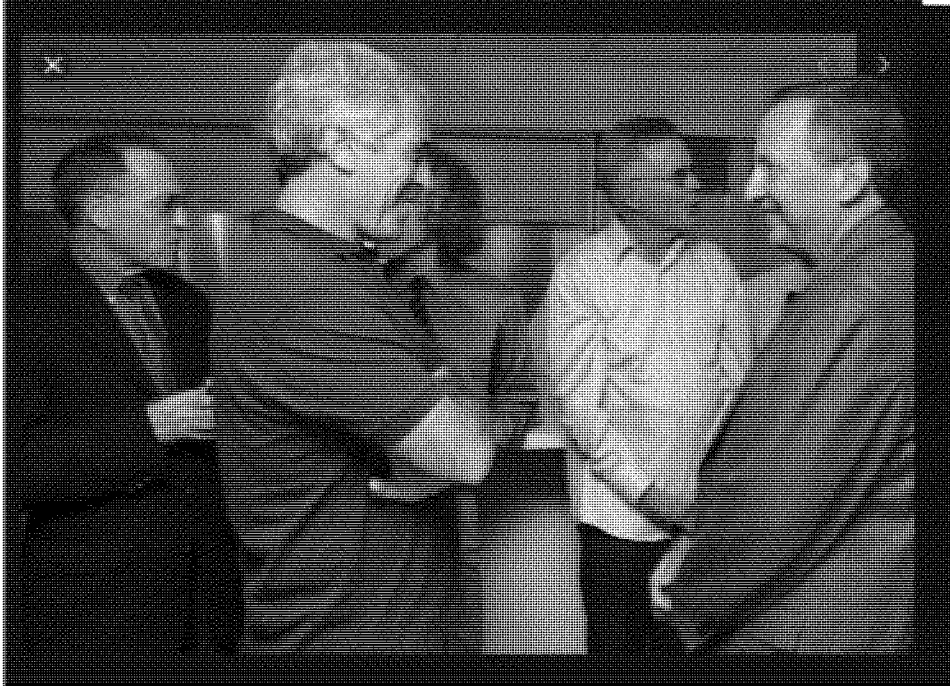
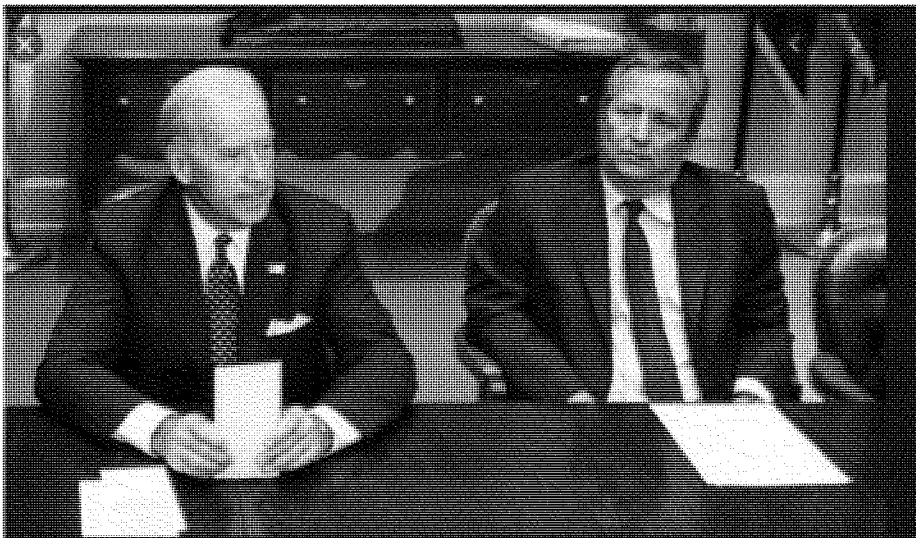
Anthony Fauci, director of National Institute of Allergy and Infectious Diseases at NIH, now appears to back a nationwide face-mask mandate.

GETTY IMAGES

“The scientists of today think deeply instead of clearly. One must be sane to think clearly, but one can think deeply and be quite insane.”

— Nikola Tesla

https://www.goodreads.com/author/quotes/278.Nikola_Tesla



Bill Gates Met With Jeffrey Epstein Many Times, Despite His Past



At Jeffrey Epstein's Manhattan mansion in 2011, from left: James E. Staley, at the time a senior JPMorgan executive; former Treasury Secretary Lawrence Summers; Mr. Epstein; Bill Gates, Microsoft's co-founder; and Boris Nikolic, who was the Bill and Melinda Gates Foundation's science adviser.

Biden with Lawrence Henry Summers <https://www.nndb.com/people/191/000029104/> **Diners, -----Dershowitz, Epstein and Summers**

October 23, 2020

Roman Catholic JESUIT, Anthony Stephen Fauci December 24, 1940 (age 79)

https://en.wikipedia.org/wiki/Anthony_Fauci

hitches his wagon to Roman Catholic Joseph Robinette Biden Jr.

November 20, 1942 (age 78) https://en.wikipedia.org/wiki/Joe_Biden

Biden says if elected he would keep Fauci -

+++++

Fauci and Biden advocate a federal mask mandate, this despite Biden telling NBC News during a town hall Monday night that he doesn't believe a president can impose a national mandate nationwide.

+++++

Speaking in Wilmington, Del., on Friday, Democratic presidential nominee Joe Biden said, "First, I'll go to every governor and urge them to mandate mask wearing in their states, and, if they refuse, I'll go to the mayors and county executives and get local mask requirements in place nationwide."

<https://abcnews.go.com/Politics/wireStory/latest-biden-game-person-debate-safe-73432288>

Anthony Fauci said Friday: 'If people are not wearing masks, then maybe we should be mandating'

<https://www.marketwatch.com/story/dr-fauci-says-if-people-are-not-wearing-masks-then-maybe-we-should-be-mandating-as-new-us-covid-19-cases-hit-85000-2020-10-24>

Fauci: Masks, Social Distancing Likely Until 2022 -

<https://www.youtube.com/watch?v=h25PWOYfxkA>

People will likely need to wear masks and follow social distancing guidelines through the end of 2021 and into 2022, one of the nation's top infectious disease experts said during a recent meeting, according to The Philadelphia Inquirer.

<https://www.webmd.com/lung/news/20201022/fauci-masks-social-distancing-likely-until-2022>



mto@umn.edu

Office Phone 612-626-6770

Office Address:

Center for Infectious Disease
Research and Policy
420 Delaware Street SE
Minneapolis, MN 55455

Mailing Address:

Center for Infectious Disease
Research and Policy
MMC 263 Mayo
8263B
420 Delaware St SE
Minneapolis, MN 55455

**Michael T. Osterholm, University of Minnesota.
Professional Associations**

Member of the National Academy of Medicine (NAM), Council of Foreign Relations, University of Minnesota Academic Health Center's Academy of Excellence in Health Research, World Economic Forum Working Group on Pandemics. Former Minnesota Department of Health state epidemiologist and chief of Acute Disease Epidemiology Section. Principal investigator of CIDRAP's Antimicrobial Stewardship Project, launched in 2016.

"The next six to 12 weeks are going to be the darkest of the entire pandemic," Michael Osterholm, director of the Center for Infectious Disease Research and Policy at the University of Minnesota, told NBC's "Meet the Press" on Sunday.



Trump's Lawyer Alan Dershowitz, says Forced Vaccinations Constitutional

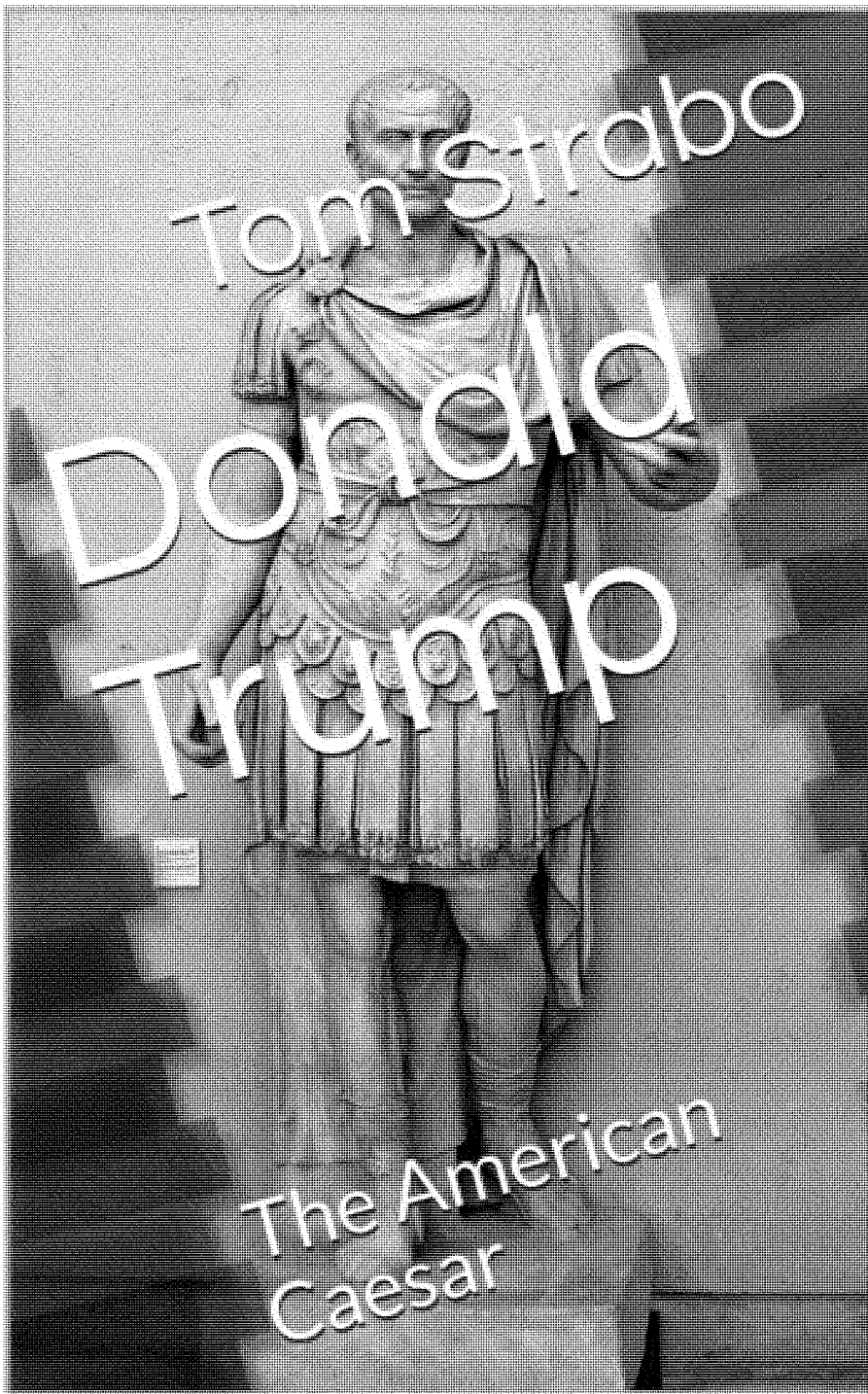
<https://www.youtube.com/watch?v=Nm3RpQ4nFuE&list=PLVJ7aM5IIPyCA6NKYEXWrSqkpeVaY9FuL&index=6>

"You have no right not to be vaccinated, you have no right not to wear a mask, you have no right to open up your business... And if you refuse to be vaccinated, the state has the power to literally take you to a doctor's office and plunge a needle into your arm." — Alan Dershowitz, Harvard law professor

<http://www.glorytogodvideos.com/>

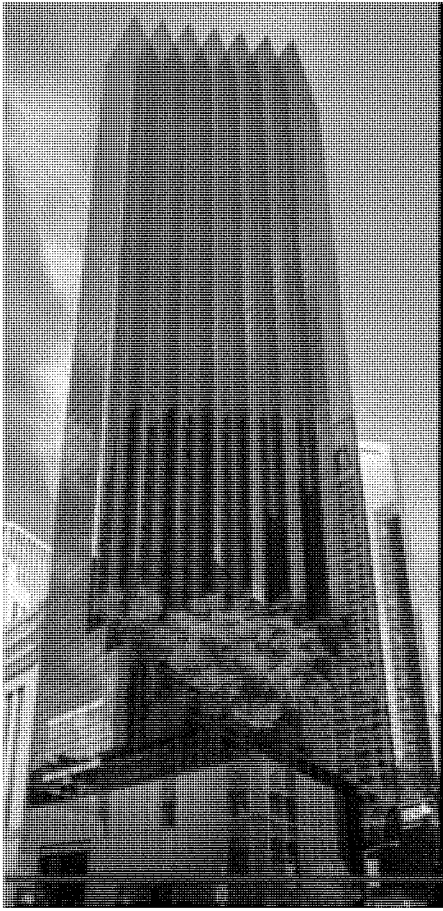
The Slippery Slope to Despotism: Paved with Lockdowns, Raids, and Forced Vaccinations

<https://www.rcreader.com/news-releases/slippery-slope-despotism-paved-lockdowns-raids-and-forced-vaccinations>



Final World Empire of America's Antichrist: The New Caesar

<https://www.youtube.com/watch?v=vbvR7ZBgWM0&feature=youtu.be>



666 Unmasked! Mark of Antichrist explained in detail -

<https://www.youtube.com/watch?v=Ackin1IGcEI&feature=youtu.be>





Lap of luxury: Donald and Melania Trump's New York City penthouse is on the 66th floor of Trump Tower and features marble walls, floors and columns throughout. 24-carat gold accents like platters, lamps, vases and crown molding that outlines each room and tableau ceilings

“Romans lock up your wives, the bald adulter's back in town.”

(b)(6)



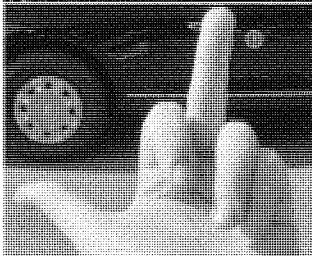
Joe Biden



@JoeBiden · Jun 27



Wear a mask.



HELL IS EMPTY
AND
ALL THE DEVILS
ARE HERE

WILLIAM SHAKESPEARE

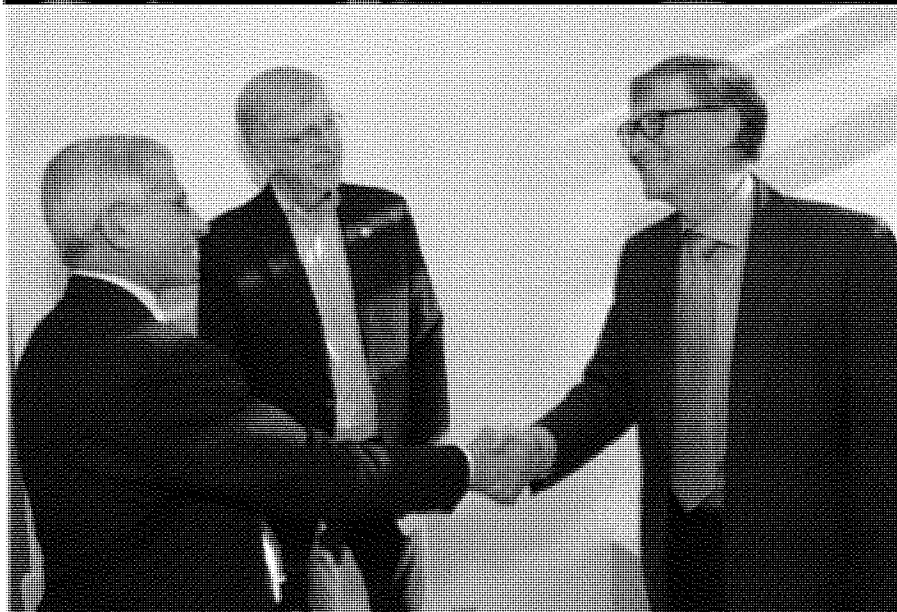


"They are called the Society or Company of Jesus, the latter designation expressing more correctly the military idea of the founder, which was to establish, as it were, a new battalion in the spiritual army of the Catholic Church."—The Encyclopedia Americana, art. "Jesuits."

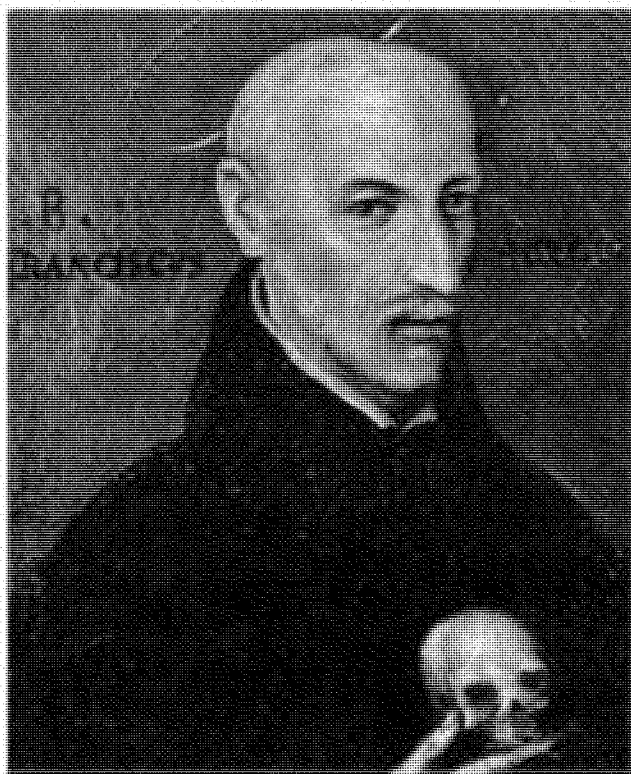
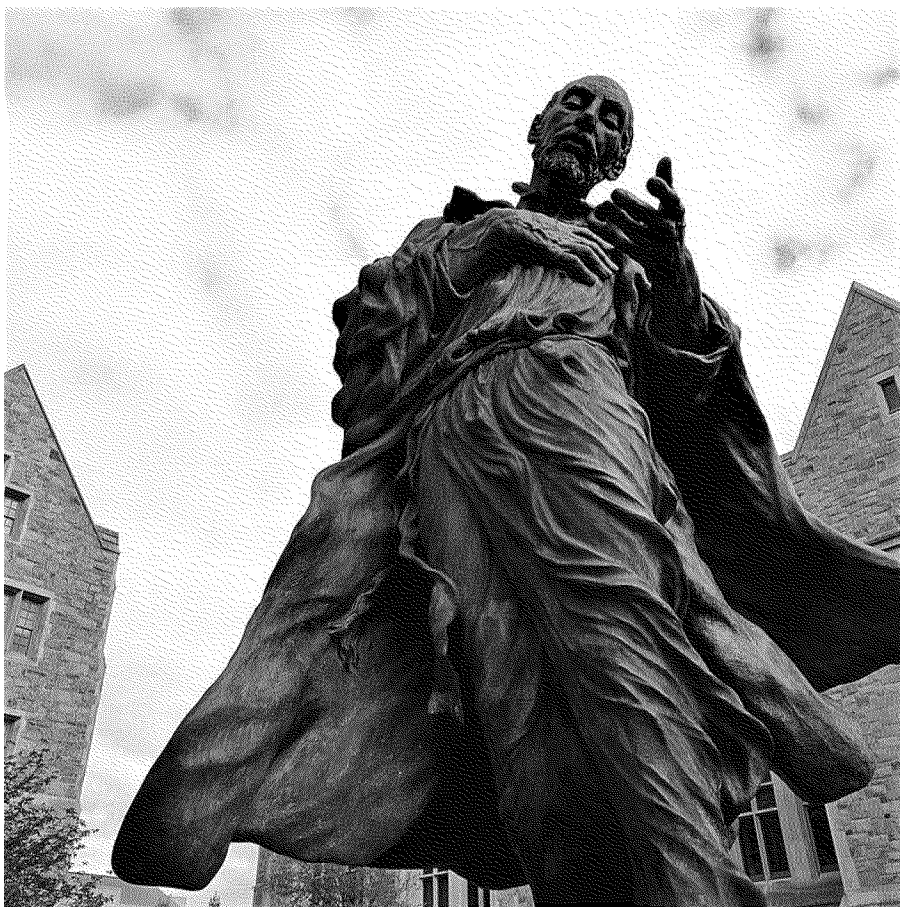


T
E
C
S
I
E
C
C
Z
t
Z
V
E
f
t
C
f
V
E
.

Adolfo Nicholas SJ (right) with Pope Francis







Portrait of a Jesuit Saint: San Francisco de Borja, 1726



The merited odium which has overtaken the Inquisition, usually officered by Dominicans, has induced the Jesuits, whose own controversial method has for the most part been different, to disclaim all connection with that tribunal, and to represent their society as free from complicity in its acts. But, in truth, it was Ignatius Loyola himself who procured its erection in Portugal in 1545-6, and F. Nithard, one of the very few cardinals of the society, was inquisitor-general of that kingdom in 1633.

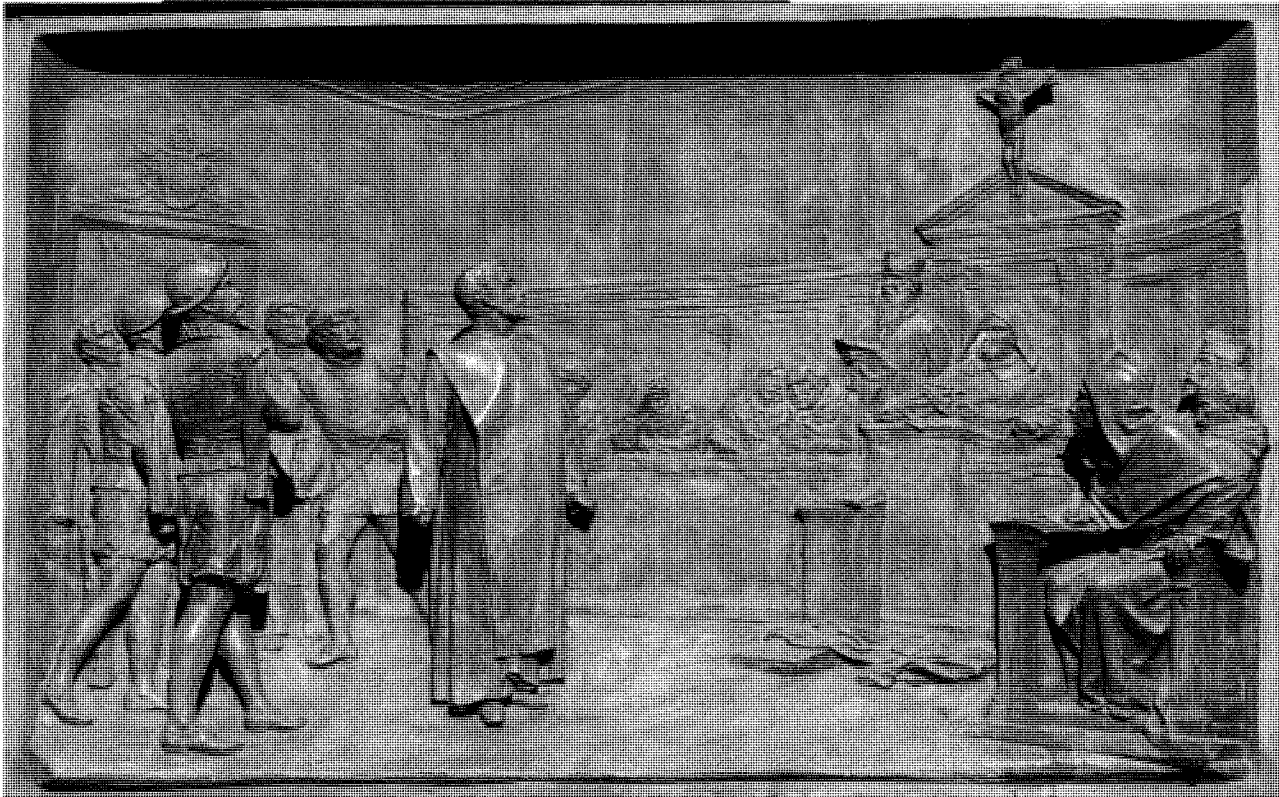
The Founder of the Society of Jesus (Jesuit) Ignatius de Loyola himself procured its [the inquisition] erection in Portugal in 1545-6 (The Encyclopaedia Britannica: A Dictionary of Arts, Sciences, Volume 13)

Photo:- Jesuit Francisco Antonio de Lorenzana, Grand Inquisitor of Spain (1794–1797) - https://en.wikipedia.org/wiki/Francisco_Antonio_de_Lorenzana



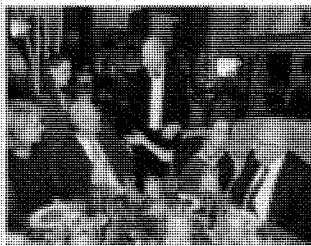


Pope Clement made him a Cardinal Inquisitor, in which capacity he served as one of the judges at the trial of Giordano Bruno, [https://en.wikipedia.org/wiki/Giordano Bruno](https://en.wikipedia.org/wiki/Giordano_Bruno) and concurred in the decision which condemned Bruno to be burned at the stake as a

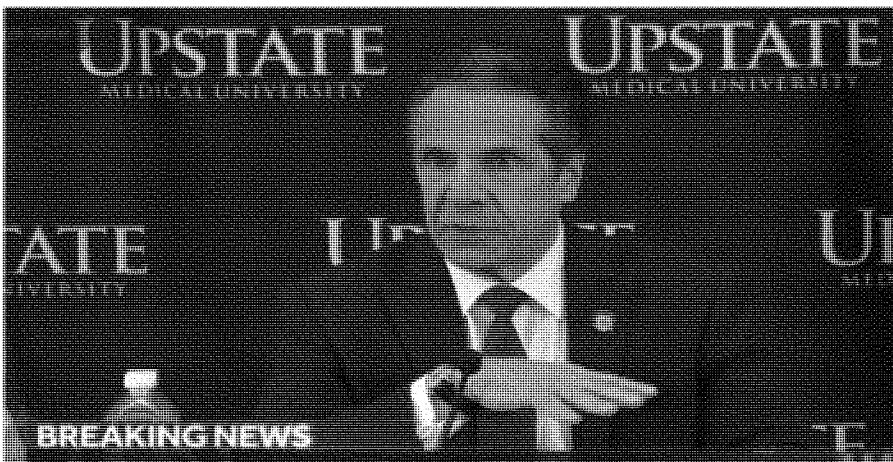


Pope Francis the Jesuit Pope & promoter of the World Lockdown in 2020 with UN Chief António Manuel de Oliveira Guterres .

Remarks by His Holiness The Jesuit Pope Francis and fellow Roman Catholic , United Nations Secretary-General António Guterres - <https://www.youtube.com/watch?v=CePSM3QMkEQ>



UN = World Government / Jacob Rothschild standing, Kissinger seated right.



Jesuit Coadjutor, Andrew Mark Cuomo flattening the curve ,
<https://www.youtube.com/watch?v=m8nCjNk3djc>

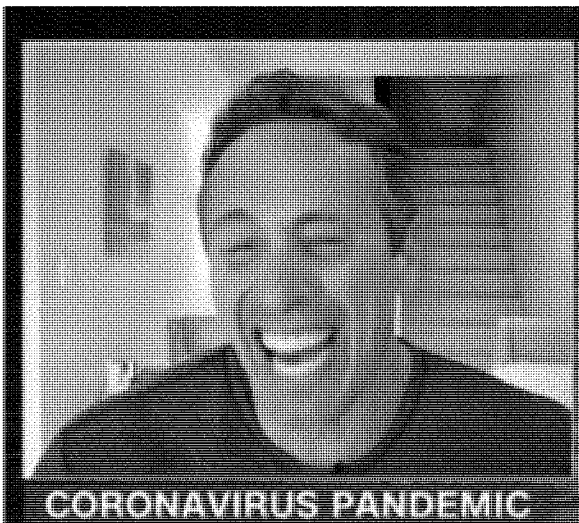
Andrew Mark Cuomo born December 6, 1957)
 Roman Catholic

<https://www.nndb.com/lists/758/000094476/>

Executive Summary:- Corona Virus Hoaxer

During his governorship, Cuomo oversaw the passage of a law legalizing same-sex marriage in New York; creation of the United States Climate Alliance, a group of states committed to fighting climate change by following the terms of the Paris Climate Accords; passage of the strictest gun control law in the U.S.; His parents were both of Italian descent; his paternal grandparents were from Nocera Inferiore and Tramonti in southern Italy, while his maternal grandparents were from Sicily His younger brother, Chris Cuomo, is a CNN journalist.

Andrew graduated from Roman Catholic St. Gerard Majella's School in 1971 a private Roman Catholic elementary school <https://www.privateschoolreview.com/st-gerard.../11423> and Archbishop Molloy High School in 1975 in Brooklyn NY https://en.wikipedia.org/wiki/Archbishop_Molloy_High_School He received a B.A. from Jesuit Fordham University in 1979, https://en.wikipedia.org/wiki/Fordham_University Cuomo will not release state death lists, nor did he order autopsies in this public health emergency as required!



Chris Cuomo

Jesuit Coadjutor, Chris Cuomo

AKA Christopher Charles Cuomo

Born: 9-Aug-1970

Birthplace: Queens, NY

Gender: Male

Religion: Roman Catholic

Race or Ethnicity: White

Sexual orientation: Straight

Occupation: Journalist

Nationality: United States

Executive summary: Co-Host, CNN New Day (Corona Virus Hoaxer)

Father: Mario Cuomo (Governor of New York, b. 15-Jun-1932, d. 1-Jan-2015)

Mother: Matilda Raffa

Sister: Margaret I. Cuomo

Brother: Andrew Cuomo (Governor of New York, b. 6-Dec-1957)

Sister: Maria Cuomo (m. Kenneth Cole)

Sister: Madeline Cuomo

Wife: Cristina Greeven (m. 24-Nov-2001, two daughters, one son)

Daughter: Bella

Daughter: Carolina Regina (b. 2011)

Son: Mario (b. 2005)

High School: The Albany Academy

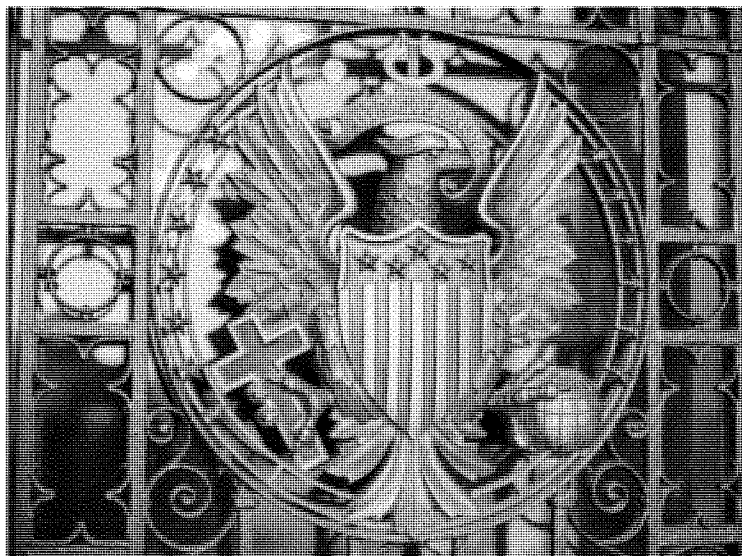
University: BA, Yale University

Law School: JD, Fordham University (1995) (jesuit)



The Dark Side of Andrew Cuomo finally exposed

<https://www.bitchute.com/video/EnV06Fabkq6Z/>



This email has been checked for viruses by Avast
antivirus software.
www.avast.com

From: (b)(6)
Sent: 11/5/2020 4:38:28 AM
To: Spicer & Com Newsmax [spicer@newsmax.com]
CC: sean.spicer@newsmax.com; brinker@newsmax.com; nbrinker@jhu.edu; greg.kelly@newsmax.com; grant.stinchfield@newsmax.com; emerald.robinson@newsmax.com; Douglas Anthony Ducey [press@azgovernor.gov]; Jenna.Ellis@whitehouse.gov; Christopher.Ruddy@newsmax.com; David Jason Muir [David.Muir@abc.com]; Thomas Edward Llamas [Tom.Llamas@abc.com]; Pierre Thomas [pierre.thomas@abcnews.com]; Eva Pilgrim [eva.pilgrim@abcnews.com]; Jonathan D Karl [jonathan.karl@abcnews.com]; Cecilia Marcellina Vega [Cecilia.Vega@abcnews.com]; mary.bruce@abcnews.com; James.Goldston@abc.com; Martha Bowes MacCallum [Martha.MacCallum@foxnews.com]; William Bret Baier [bret.baier@FOXNEWS.COM]; Doa Lemon [Don.Lemon@turner.com]; Lesley Rene Stahl [Lesley.Stahl@nbcuni.com]; Michael T Osterholm [mto@umn.edu]; Michael.Osterholm@weforum.org; Rick Bright WHO [brightR@who.int]; john.watson@isirv.org; Maria.Zambon@isirv.org; john.watson@isirv.org; António Guterres [Antonio.Guterres@weforum.org]; António Manuel de Oliveira Guterres [guterres@un.org]; Hilde.Schwab@weforum.org; Klaus Schwab [Klaus.Schwab@weforum.org]; Nicole.Schwab@weforum.org; Olivier.Schwab@weforum.org; Kristen.Welker@nbcuni.com; francis.rocca@wsj.com; Ed [Ed.Mechmann@archny.org]; Judy.McGrath@amazon.com; Melanie [Melanie.Healey@viacbs.com]; Hans [Hans.Vestberg@viacbs.com]; Shari [shari.redstone@viacbs.com]; Kevin [kevin.frazier@viacbs.com]; James Thomas Fallon [jimmy.fallon@nbcuni.com]; Judith.Miller@FOXNEWS.COM; Mercedes Viana Schlapp [mercedes@CoveStrategies.onmicrosoft.com]; Matthew Aaron "Matt" Schlapp ACU Chair [mschlapp@conservative.org]; Noah [Noah.Oppenheim@nbcuni.com]; Mercedes V Schlapp [Mercedes.Schlapp@whitehouse.gov]; Matt Schlapp Cove Strategies [mschlapp@covestrategies.com]; George Robert Stephanopoulos [George.Stephanopoulos@abc.com]; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Alison Morris [Alison.Morris@nbcuni.com]; Lester Don Holt Jr [Lester.Holt@nbcuni.com]; Rachel Anne Maddow [Rachel.Maddow@nbcuni.com]; Kamala [dharris@stanford.edu]; Dana Marie Perino [dana.perino@foxnews.com]; Gregory Gutfeld [greg.gutfeld@foxnews.com]; Juan Antonio Williams [Juan.Williams@foxnews.com]; MARC.CAPUTO@politico.com; brian.stelter@turner.com; hope.hicks@whitehouse.gov; ceoclub@bc.edu; Christopher Wallik [chris.wallace@foxnews.com]; sean.conley@whitehouse.gov; Peter.Alexander@nbcuni.com; Hoda Kotb [Hoda.Kotb@nbcuni.com]; linsey.davis@abcnews.com; Kirill.Dmitriev@rdif.ru; Kirill.Dmitriev@weforum.org; Vladimir.Dmitriev@rdif.ru; Vlad [accredit@gov.ru]; Vladimir Putin [pr@nm-g.ru]; GhebreyesusT@who.int; RyanM@who.int; jon.meacham@time.com; jcohen@aaas.org; investigative@ap.org; Thomas Edward Llamas [Tom.Llamas@abc.com]; tom.llamas@abcnews.com; David.Muir@abcnews.com; David Jason Muir [David.Muir@abc.com]; Cecilia.Vega@abcnews.com; Stephanie.Ramos@abcnews.com; brian.stelter@turner.com; Brian.Rose@londonreal.tv; Kilmeade, Brian [Brian.Kilmeade@foxnews.com]; brian.jones@foxnews.com; Brian.Bennett@latimes.com; Judge Judy [Jeanine.Pirro@FOXNEWS.COM]; Susan Michie [s.michie@ucl.ac.uk]; Professor Sir David Clary [david.clary@magd.ox.ac.uk]; John Penrose [beaupere@parliament.uk]; Susan Diane Wojcicki [SGWEG@slac.stanford.edu]; adrienne.bankert@abc.com; tkoyama@us.ibm.com; Julian.Reichelt@bild.de; Nancy.Harmeyer@foxnews.com; marianna.spring@bbc.co.uk; mark.woolhouse@ed.ac.uk; brian.rose@londonreal.tv; Dana Kozlov [dakozlov@cbs.com]; Brad Edwards [baedwards@cbs.com]; John Bel Edwards [govpress@la.gov]; Richard M Novak MD [rmnovak@uic.edu]; Brett P. Giroir [ASH@hhs.gov]; Trey.Gowdy@nelsonmullins.com; trey.gowdy@foxnews.com; Harris Kimberly Faulkner [harris.faulkner@foxnews.com]; JMUSTIAN@ap.org; theodore.long@hms.harvard.edu; theodore.long@yale.edu; ted.long@nychealthandhospitals.org; neil.vora@cdc.gov; neil.vora@nychealthandhospitals.org; Kamala Devi Harris [Kamala_Harris@harris.senate.gov]; Kamala Devi Harris [chris_harris@harris.senate.gov]; dharris@stanford.edu; alex.hogan@foxnews.com; iain.begg@lse.ac.uk; fiona.watt@kcl.ac.uk; fiona.watt@mrc.ukri.org; Elvira.Nabiullina@rdif.ru; Sergei.Ivanov@rdif.ru; Andrey.Belousov@rdif.ru; Maksim.Oreshkin@rdif.ru; Dominique.Strauss-Kahn@rdif.ru; Vladimir.Dmitriev@rdif.ru; gintsburg@gamaleya.org; pronin@gamaleya.org; Michelle.Tuzee@abc7.com; marc.brown@abc7.com; lisa.booth@foxnews.com; smilligan@usnews.com; HGodman@usnews.com; Gordon.Robertson@cbn.com; lori.johnson@cbn.com; KGO-TV.Programming@abc.com; Kimberly.Hunt@10news.com; leon.clark@10news.com; Doris.Lewis@10news.com; bbloom@hsph.harvard.edu; florian.krammer@mssm.edu; Bai.Yansong@cctv.com; Edward.Law@cctv.com; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; Joel Scott Osteen [press@siriusxm.com]; Victoria L Iloff [advertising@siriusxm.com]; joel@lakewoodchurch.com; Lloyd E Campbell [lcampbell@spencerstuart.com]; Charles Philip Arthur George [fma@weforum.org]; Muriel Elizabeth Bowser [eom@dc.gov]; margaret.satterthwaite@nyu.edu; Andrew Mark Cuomo SJ [Press.Office@exec.ny.gov]; tara.brown@nine.com.au; 60Minutes@nine.com.au; naomi.shivaraman@nine.com.au;

tdikeos@nine.com.au; Scott Gottlieb illuminati [info@illumina.com]; Scott.Gottlieb@aei.org; Scott Gottlieb [Brendan.Rascius@aei.org]; steve@apiject.com; jay@apiject.com; Clarisse Mason [masonc@who.int]; David Malpass [DMalpass@ifc.org]; David Wilson [dwilson@worldbank.org]; Mamadi Yilla [yillam2@state.gov]; staff@the-asci.org; grotenfelt.nora@gmail.com; nathalie.macdermott@kcl.ac.uk; RT-US@rttv.ru; rick.sanchez@rttv.ru; justin@propublica.org; lsullivan@npr.org; prothma1@jhmi.edu; gail.mcgovern@redcross.org; david.meltzer@redcross.org; gail.mcgovern@dteenergy.com; gail.mcgovern@paypal.com; eliot_cohen@jhu.edu; david.rubenstein@jhu.edu; gail.mcgovern@jhu.edu; Mercedes.Lopez-Blanco@archny.org; Timothy.Dolan@archny.org; Robert.t.Ritche@archny.org; Ed.Dougherty@archny.org; Donald.Haggerty@archny.org; Wolf Isaac Blitzer [wolf.blitzer@turner.com]; Alison.Morris@nbcuni.com; Emily.Maitlis@bbc.co.uk; David.Grossman@bbc.co.uk; Imenninger@hmflaw.com; mcohen@cohengresser.com; Susanna.Reid@itv.com; piers.morgan@itv.com; Thomas J Kavalier [tkavalier@cahill.com]; news@highlandscurrent.org; jmeisner@tribune.com; eva.pilgrim@abc.com; jc2287@cumc.columbia.edu; mblabate@cicu.org; Kadlec, Robert P (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=70539a2f88924cc8913781ea74278b12-HHS-Robert.]; Azar, Alex (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4db7abd56a7e478883f5cd8e2e8a18d3-HHS-Alex.Az]; Stanley.Erck@novavax.com; umihighereducation@jesuits.org; Ellison.Barber@nbcuni.com; emily.badger@nytimes.com; Vernon Coleman [press@vernoncoleman.com]; boris.johnson@weforum.org; Anthony Charles Lynton Blair [info@institute.global]; tony.blair@weforum.org; melanie.walker@weforum.org; mwalker@gatesfoundation.org; BNikolic@gatesfoundation.org; David.Malpass@worldbank.org; Melanie.Walker@ama-assn.org; rachel.scott@abc.com; c.whitty@nhs.net; Andrew.Witty@uhg.com; patrick.vallance@number10.gov.uk; Sir Patrick Vallance [info@acmedsci.ac.uk]; David_S_Wichmann@uhc.com; Ken.Ehlert@uhc.com; Dirk_McMahon@uhc.com; mediacontact@questdiagnostics.com; Hinton, Denise [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=85feca0be0694803be6030e97c7b4adb-HINTOND]; Stephen.Hemsley@uhg.com; hemsleyc@fordhamprep.org; tribe@law.harvard.edu; triversr@gmail.com; dersh@law.harvard.edu; lawrence_summers@hks.harvard.edu; lindsay_jones@hks.harvard.edu; enew@fas.harvard.edu; elisa.new@poetryinamerica.org; Boris.Nikolic@twistbioscience.com; Boris.Nikolic@editasmed.com; info@editasmed.com; boris.nikolic@biomaticscapital.com; Julie.Sunderland@biomaticscapital.com; Andrew.Pollard@ovg.ox.ac.uk; dale.woods@nbcuni.com; deedee.myers@warnerbros.com; Jeremy.Farrar@cepi.net; Joachim.Klein@cepi.net; Bryant, Paula R (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eb42f9318014bbb8c14d39ef311d8f9-HHS-paula.b]; Idro.Seferi@dw.com; sarah.mabrouk@dw.com; pisarna@tanja-fajon.eu; maja.kezunovickrasek@tanja-fajon.eu; Tanja.Fajon@ep.europa.eu; jure.tanko@ep.europa.eu; Sasa.Dragojlo@balkaninsight.com; Aleksandar.Vucic@weforum.org; tanja.fajon@europarl.europa.eu; Michelle Powers Net NY TV [michelle.powers@netny.tv]; Stanley.Plotkin@penntmedicine.upenn.edu; Lisa.Bellini@penntmedicine.upenn.edu; Leonard.Hayflick@ucsf.edu; Marie.Bernard@nih.gov; Gruber, Marion [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=019cd2669c7048f7a116d72b7682de44-gruber]; Jim.Sciutto@turner.com; andrewkaufmanmd@gmail.com; Jenny Anne Durkan [jenny.durkan@seattle.gov]; Sean Patrick Hannity [sean.hannity@foxnews.com]; kevin.corke@foxnews.com; dan.springer@foxnews.com; VladimirDuthiers [DuthiersV@cbsnews.com]; Vladimir Putin [pr@nm-g.ru]; Vlad [accredit@gov.ru]; Narendra.Modi@pmindia.gov.in; Eric Frederick Trump [etrump@trumporg.com]; Savannah Clark Guthrie [Savannah.guthrie@nbcuni.com]; Hoda Kotb [Hoda.Kotb@nbcuni.com]; Craig Melvin [Craig.Melvin@nbcuni.com]; jfair@tam.u.edu; mwelsh@tam.u.edu; Ellen.DeGeneres@nbcuni.com; Subha Nagalakshmi Munchetty-Chendriah [Naga.Munchetty@bbc.co.uk]; William Jefferson Blythe III [press@clintonfoundation.org]; Chancellor Hillary Diane Rodham Clinton [comms.office@qub.ac.uk]; Hillary Diane Rodham Clinton [philippe.reines@bgsdc.com]; Joseph Robinette Biden Jr [jbash@bgsdc.com]; Kate.Bedingfield@joebiden.com; Katherine Anne Couric [Katie.Couric@turner.com]; Katherine Jean "Kate" Bolduan [Kate.Bolduan@turner.com]; Linsey.Davis@abc.com; Tom.Llamas@abc.com; Steve Aduato [Mary.Gamba@steveadubato.org]; Heiko Maas [Heiko.Maas@auswaertiges-amt.de]; Matt Hancock UK Health Secretary [matt.hancock@weforum.org]; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@georgetown.edu; John.DeGioia@weforum.org; Tania.Tetlow@loyno.edu; julia.macfarlane@abc.com; emma.gormley@itv.com; The Rt Hon Boris Johnson MP [press@number10.gov.uk]; Alexander Boris de Pfeffel Johnson [boris.johnson.mp@parliament.uk]; Alisyn.Camerota@turner.com; Alison.Morris@nbcuni.com; Ron DeSantis [media@eog.myflorida.com]; His Worship S Khan [dexter@dexterhenry.co.uk]; Craig Melvin [Craig.Melvin@nbcuni.com]; Shannon Cake [scake@wptv.com]; NHogensen@scripps.com; Gregory Wayne Abbott [Press@GregAbbott.com]; Alfred Charles Sharpton Jr. [media@nationalactionnetwork.net]; Jennifer Mayerle [jlmayerle@wcco.com]; Jens.Spahn@weforum.org; Daniel.Funke@burda.com; Eckart.Bollmann@burda.com;

hubert.burda@burda.com; matt.weiss@burda.com; Philipp.Welte@burda.com; friede.springer@axelspringer.com; Mathias.Doeppner@axelspringer.com; MDoepfner@netfix.com; Borge Brende [Borge.Brende@weforum.org]; Kristalina Ivanova Georgieva-Kinova [Kristalina.Kinova@weforum.org]; Al Gore [al.gore@weforum.org]; David M Rubenstein [david.rubenstein@weforum.org]; Heizo Takenaka [Heizo.Takenaka@weforum.org]; Jack Ma [jack.ma@weforum.org]; Matt.Damon@weforum.org; yann.zopf@weforum.org; Zhu Min [Zhu.Min@weforum.org]; forumusa@weforum.org; Lester Don Holt Jr [Lester.Holt@nbcuni.com]; Dr. Pampee Young [media@redcross.org]; brian.stelter@turner.com; fns@foxnews.com; Foxnewsunday2@FOXNEWS.COM; Thomas V Inglesby MD [tinglesby@jhu.edu]; Prof Charles D Todd [ctodd@jhu.edu]; Charles David Todd [chuck.todd@nbcuni.com]; Paul B Rothman MD John Hopkins [crothman@jhu.edu]; Eliot A Cohen [ecohen@jhu.edu]; media@gatesfoundation.org; tvstudio@who.int; lindmeierch@who.int; SalisburyM@who.int; GhebreyesusT@who.int; Joe.Scarborough@nbcuni.com; Gina.Kolata@nytimes.com; stanley@stanleyjohnson.org; hannah.beer@curtisbrown.co.uk; mara.gay@nytimes.com; maggie.haberman@nytimes.com; editor@churchmilitant.com; michael.voris@churchmilitant.com; lawrence.Gostin@weforum.org; Lawrence Oglethorpe Gostin [gostin@law.georgetown.edu]; douglas.emhoff@dlapiper.com; beth.daley@theconversation.com; Madeleine.Rivera@foxnews.com; Geraldo.Rivera@foxnews.com; JDeGioia@carnegie.org; John J DeGioia SJ [cfc@carnegie.org]; John.DeGioia@weforum.org; John.DeGioia@georgetown.edu; Matteo Bruni [Matteo.Bruni@vatican.va]; Alexander.Gintsburg@rdif.ru; Alina.Kabaeva@nm-g.ru; Andrey.Belousov@rdif.ru; Kirill.Dmitriev@rdif.ru; Kruglova Anna M. [amkruglova@rttv.ru]; Maksim.Oreshkin@rdif.ru; Mikhail Albertovich Murashko [NabatovaEA@rosminzdrav.ru]; Nogaeva Oksana G. [ognogaeva@rttv.ru]; ministry@mid.ru; press@rosminzdrav.ru; Dr. Margaret Chan Director General of WHO [chanm@who.int]; Jane Pauley [PauleyS@cbsnews.com]; Susan Zirinsky [SusanZ@cbsnews.com]; Martha Teichner [TeichnerM@cbsnews.com]; Brown, Jeremy (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6e502731145c4045b5e088df526a710b-HHS-jeremy.]; nina.shore@nih.gov; Ward, Jackie M (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9195352dc4c040ca9e98a5434f9b0cca-HHS-jackie.]; Gareth Genner [Gareth.Genner@truststamp.ai]; christoph.jumpelt@dw.com; Karl.Juesten@dw.com; Vicky.Nguyen@nbcuni.com; Constanze.Stelzenmueller [CStelzenmueller@brookings.edu]; sburnett@ap.org; Helge.Braun@bundesregierung.de; Angela.Merkel@bundestag.de; Horst.Seehofer@bundestag.de; andreas.scheuer@bundestag.de; Jens.Spahn@bundestag.de; stefan.kaufmann@bundestag.de; Heiko.Maas@bundestag.de; Helge.Braun@bundestag.de; Helge.Braun@bundeskanzlerin.de; Christine.Lambrecht@bundestag.de; Olaf.Scholz@bundestag.de; Wolfgang.Schauble@bundestag.de; Steffen.Seibert@bpa.bund.de; ulrike.demmer@bpa.bund.de; martina.fietz@bpa.bund.de; Margaret.Chan@Weforum.org; pierre.thomas@abcnews.com; David.Muir@abc.com; matt.gutman@abcnews.com; dmitry.chernychenko@gazprom-media.com; ian.dunt@politics.co.uk; Vanessa.Kortekaas@ft.com; Christopher.Ruddy@newsmax.com; Michelle.Malkin@newsmax.com; darren.beattie@hudson.org; heather.nauert@hudson.org; douglas.feith@hudson.org; lewis.libby@hudson.org; leserservice@funkemedien.de; Ove.Saffe@funkemedien.de; Andreas.Schoo@funkemedien.de; matt.murray@wsj.com; Michael.Wueller@wsj.com; jomalleydillon@joebiden.com; roflaherty@joebiden.com; john.pence@donaldjtrump.com; lara.trump@donaldjtrump.com; Bill.Stepien@donaldjtrump.com; Mercedes.Schlapp@donaldjtrump.com; Nose Power [press@joebiden.com]; Paul.Sagan@propublica.org; jill.Abramson@propublica.org; Stephen.Hoge@modernatx.com; Stéphane Bancel [media@modernatx.com]; Alan Jay Lichtman [lichtman@american.edu]; Lesley Stahl [media@bilderbergmeetings.org]; Nancy Cooper [nancy.cooper@newsweek.com]; exclusive@the-sun.com; Anthony Stephen Tony Fauci [anthony.fauci@nih.gov]; TonyDokoupil [DokoupilT@cbsnews.com]; tony.hall@bbc.co.uk; Anthony Mason [MasonA@cbsnews.com]; Michael Anthony Strahan [michael.strahan@abc.com]; George.Murdoch@foxnews.com; rupert.murdoch@fox.com; Lachlan.Murdoch@fox.com; rbrooks@newscorp.com; Leland Vittert [leland.vittert@foxnews.com]; His Eminence Timothy Cardinal Dolan [maryellen.oconnor@archny.org]; cathy.newman@channel4.com; Eric Frederick Trump [etrump@trumporg.com]; etrump@maralagoclub.com; peter.doocy@foxnews.com; jesse.watters@foxnews.com; Tucker Swanson McNear Carlson [tucker.carlson@foxnews.com]; Neil Patrick Cavuto [neil.cavuto@FOXNEWS.COM]; shannon.ryan@disney.com; Xi.Jinping [Wang.Yi@fmprc.gov.cn]; Wolf Blitzer [wolf.blitzer@turner.com]; Dana Ruth Schwartz [dana.bash@turner.com]; Jeff Zucker [Jeff.Zucker@turner.com]; Stuart.Varney@foxbusinessnews.com; chris_harris@harris.senate.gov; Dan_Holler@rubio.senate.gov; david_popp@mccconnell.senate.gov; Justine_Sanders@rubio.senate.gov; Kamala Harris [Kamala_Harris@harris.senate.gov]; Tony.Gallagher@the-sun.com; mmflint@facebook.com

Subject: Sean:- "Operation Vendetta"& Million Mask March. Washington, D.C., Boris the blonde orders lockdown on Jesuit Guy Fawkes 5 November, Anniversary of the Gunpowder Plot 1605 (the Jesuit Treason)



To: Sean Michael Spicer c/o Newsmax

Sean Spicer

AKA Sean Michael Spicer

Born: 23-Sep-1971

Birthplace: Barrington, RI

Roman Catholic - <https://www.nndb.com/lists/758/000094476/>

Executive summary: White House Communications Director

"tired of being blindsided" by the president.

<https://www.businessinsider.com/why-sean-spicer-is-resigning-2017-7?r=US&IR=T>

Irish Ancestry - <https://www.nndb.com/lists/936/000043807/>

Sean,

Watched your show with Lindsay this morning here:-

Watch Newsmax TV's 'Vote for America' Coverage Today!

Lyndsay Keith Joins 'Spicer & Co.' as Co-Host on Newsmax TV - <https://www.newsmax.com/us/spicer-newsmax/2020/03/05/id/957122/>

NEWSMAX - 2020 ELECTION: STATE OF THE RACE

https://www.newsmaxtv.com/Shows/Spicer-and-Co/vid/1_k9w4gctn

Have to say that it all smells a bit fishy with the mass mail in voting and that Hon. President Mr. Trump is right to stop the counting until the ballot integrity is established!

Found your show quite entertaining. I had been in touch with you when you were at the Whitehouse last.

Hope you're keeping well and are enjoying your new show. Will attach a few news links/tips for your investigation and possible reporting.

Wishing you all the best. Regards,

(b)(6)

(b)(6)

+++++

Friday, July 26, 2019

New Prime Minister of the United Kingdom - Boris Johnson

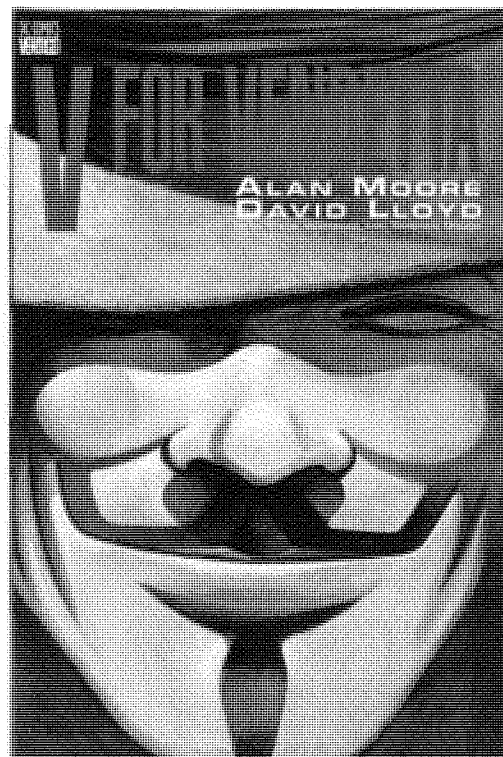


Alexander Boris de Pfeffel Johnson, also known as Boris Johnson, has become the new Prime Minister of the United Kingdom and Leader of the Conservative Party on July 23, 2019. He has been the Member of Parliament (MP) since 2001. Johnson was born on the 19 June 1964 in New York City to English parents. Johnson was educated at Oxford. He also served as Foreign Secretary from 2016

to 2018. Johnson was baptized Catholic but confirmed in the Anglican faith. He has been married twice and has four children.

Johnson began his journalism career as a writer for The Daily Telegraph.

Following Theresa May's appointment as Prime Minister, Boris Johnson was elected as Foreign Secretary.





Remember, Remember the 5th of November

Catholic Boris The Blonde Johnson Betrays Britain/Catholics orders lockdown on Jesuit Catholic Guy Fawkes anniversary <https://www.youtube.com/watch?v=vBkUbszaQ7E>

The Jesuit Gunpowder Plot of 1605 to blow up the houses of parliament!

https://en.wikipedia.org/wiki/Gunpowder_Plot

& on The Million Mask March anniversary, also known as "Operation Vendetta"

https://en.wikipedia.org/wiki/Million_Mask_March

Boris Johnson 'first baptised Catholic' to become prime minister -

Boris Johnson's son baptised Catholic in Westminster Cathedral

Mr Johnson's sixth child was born on 29th April and baptised Wilfred Lawrie Nicholas,

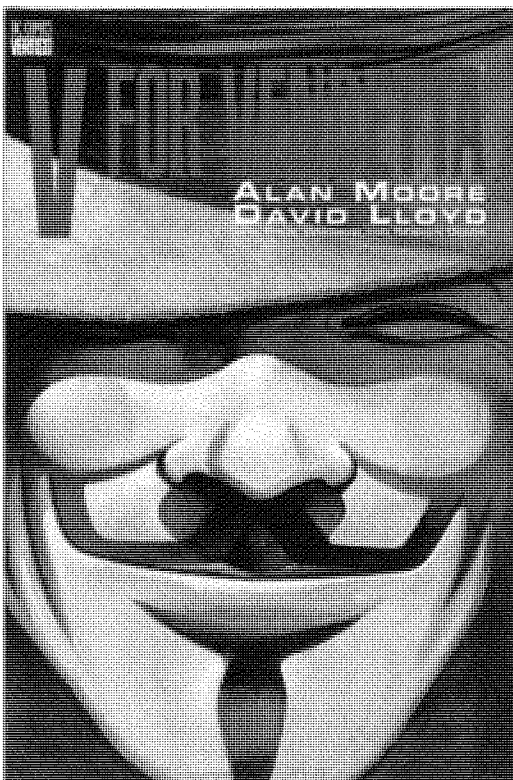
Ms Symonds is a Catholic and Mr Johnson was baptised a Catholic because it was the faith of his mother, Charlotte Johnson Wahl, making him the first baptised Catholic to serve as a British prime minister. Prime Minister Boris Johnson and his fiancée, Carrie Symonds, had their four-month-old son baptised on 12th September, 2019 in the cathedral's Lady Chapel.
<https://thecatholicuniverse.com/boris-johnsons-son.../>

The Gunpowder Plot of 1605, in earlier centuries often called the Gunpowder Treason Plot or the Jesuit Treason, was a failed assassination attempt against King James I by a group of provincial English Catholics led by Robert Catesby.

https://en.wikipedia.org/wiki/Robert_Catesby The Protestant James I, who became King of England in 1603, was less tolerant of Catholicism than his followers had hoped. Catesby therefore planned to kill him by blowing up the House of Lords with gunpowder during the State Opening of Parliament, the prelude to a popular revolt during which a Catholic monarch would be restored to the English throne. Early in 1604 Catesby began to recruit other Catholics to his cause, including Thomas Wintour, John Wright, Thomas Percy, and Guy Fawkes. https://en.wikipedia.org/wiki/Guy_Fawkes

The Guy Fawkes mask is a stylised depiction of Guy Fawkes, the best-known member of the Gunpowder Plot, an attempt to blow up the House of Lords in London on 5 November 1605. https://en.wikipedia.org/wiki/Gunpowder_Plot

The use of a mask on an effigy has long roots as part of Guy Fawkes Night celebrations.



Since the 2005 release of the film V for Vendetta, the use of Guy Fawkes masks has become widespread internationally among groups protesting against politicians, banks, and financial institutions.

The masks both conceal the identity and protect the face of individuals and demonstrate their commitment to a shared cause.

(Think Corona Virus - Covid-19)

https://en.wikipedia.org/wiki/Guy_Fawkes_mask

It looks like Biden will complete his “theft” of the presidential election tomorrow when Nevada’s results are reported.

Nevada has six electoral votes to offer, and while the state appeared to be leaning toward Joe Biden going into election day, the race as of Wednesday morning was too close to call. With the margin in counted votes incredibly close, Nevada election officials said they would not announce any further results until Thursday morning, leaving the fate of the state's electoral votes in the balance.

President Trump visited Nevada several times this year, though mostly to spend the night at his property in Las Vegas before visiting other Western states. Since his official nomination, the president has campaigned twice in Nevada: once in September and once in October. He also recently campaigned just over the Nevada border in neighboring Arizona, after previous Nevada campaign event venues were cited for violating COVID-19 restrictions.

After a flurry of visits to the state as he sought his party's nomination ahead of the state's February caucus, Biden has returned to Nevada once, in early October.

President George W. Bush was the last Republican to win Nevada, claiming just over 50% of the vote in 2004.

Nevada Election Results

Updated: 19H Ago Electoral Votes: 6 86% In County Results + Exit Poll +



Joe Biden (D)

49.3%

Votes:
588,252

Donald Trump (R)

48.7%

Votes:
580,605



Once he becomes President-Elect, “the communist Jesuits will have succeeded in placing a leftist Catholic into the presidency, just like they did with Hugo Chavez in Venezuela.”

https://en.wikipedia.org/wiki/Hugo_Ch%C3%A1vez

After that, we wait and see if Trump & the “White Hats” make a move or Pence & Cardinal Parolin (Peter the Roman) do.

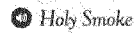
If neither team initiates a Mass Arrests Psyop, we’ll have a long and ugly three years

<https://www.spectator.co.uk/podcast/who-will-be-the-next-pope->



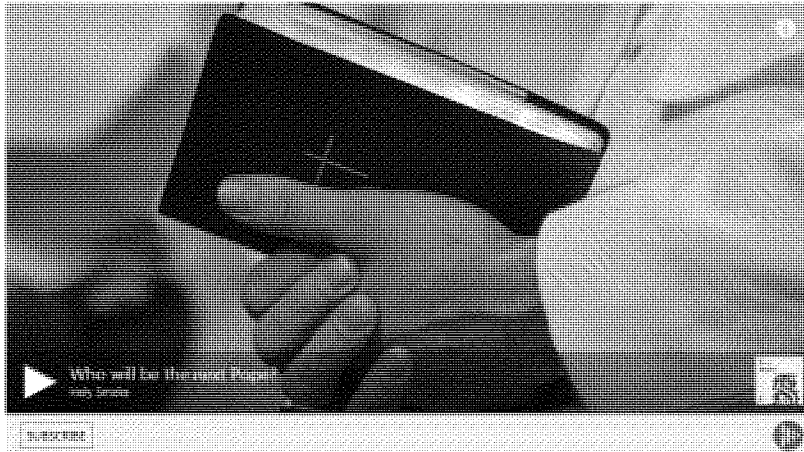
Cardinal Parolin the next Pope?

<https://onepeterfive.com/cardinal-parolin-the-next-pope/>



The next pope: are we facing the nightmare of a Parolin pontificate?

📅 7 July 2020, 11:03am / ⏱ 31 min listen



Cardinal Parolin defends China deal as Vatican prepares to renew agreement
<https://www.catholicnewsagency.com/news/cardinal-parolin-defends-china-deal-on-eve-of-renewal-85517>

Election not yet resolved, with critical Catholic issues hanging in the balance
<https://www.catholicnewsagency.com/news/election-not-yet-resolved-with-critical-catholics-issues-hanging-in-the-balance-93989>

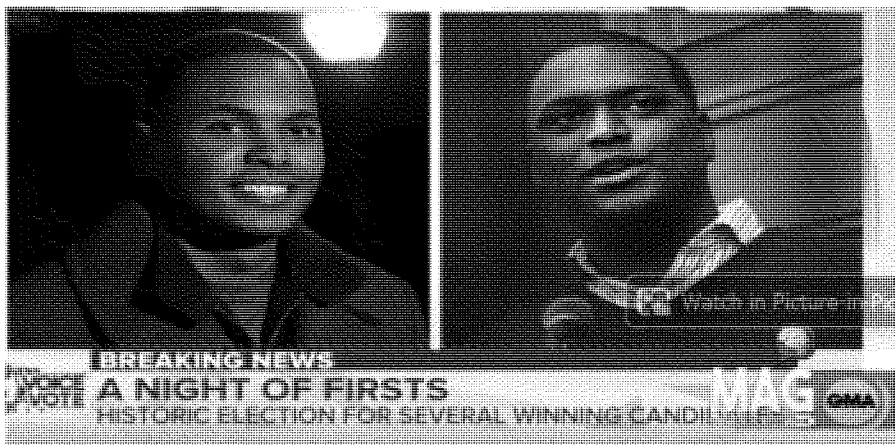
First Openly Transgender State Senator Sarah McBride Elected in Delaware
<https://www.youtube.com/watch?v=4ugroMSayqM>
A night of firsts Sarah McBride makes history as 1st transgender state senator
<https://www.goodmorningamerica.com/news/video/sarah-mcbride-makes-history-1st-transgender-state-senator-74018243>

WHAT DID YOU GET FOR VOTING IN THE 2020 ELECTIONS NOW YOU CAN SEE
<https://www.youtube.com/watch?v=jjMc7MOnRRg>



A night of firsts

Plus, the 2020 election also saw victories for the first openly gay Black members of congress
<https://www.goodmorningamerica.com/news/video/sarah-mcbride-makes-history-1st-transgender-state-senator-74018243>





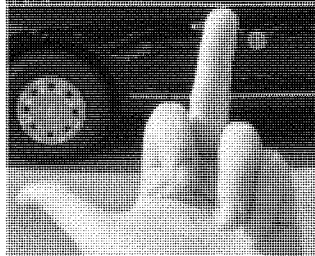
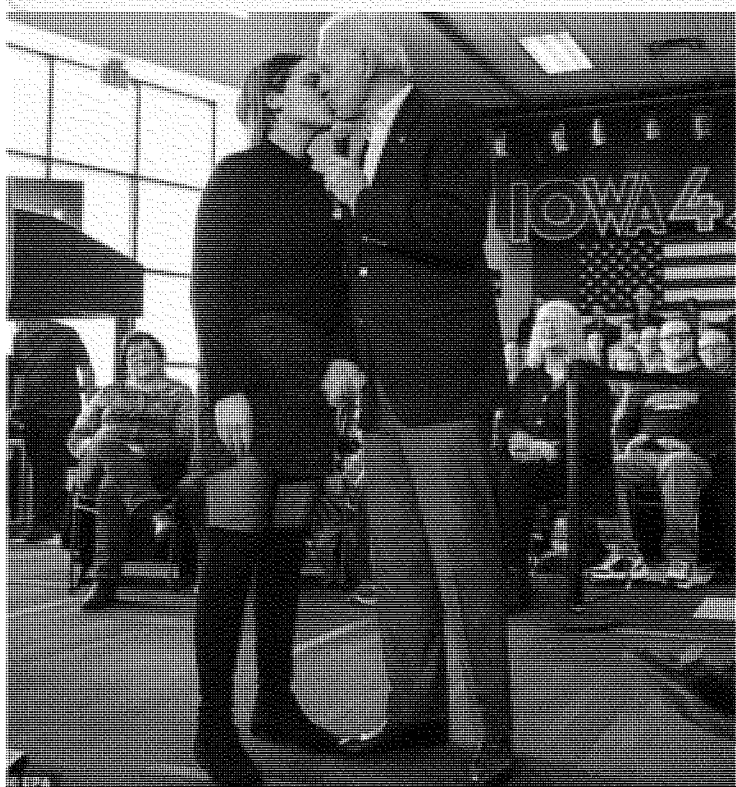
Joe Biden



@JoeBiden · Jun 27



Wear a mask.

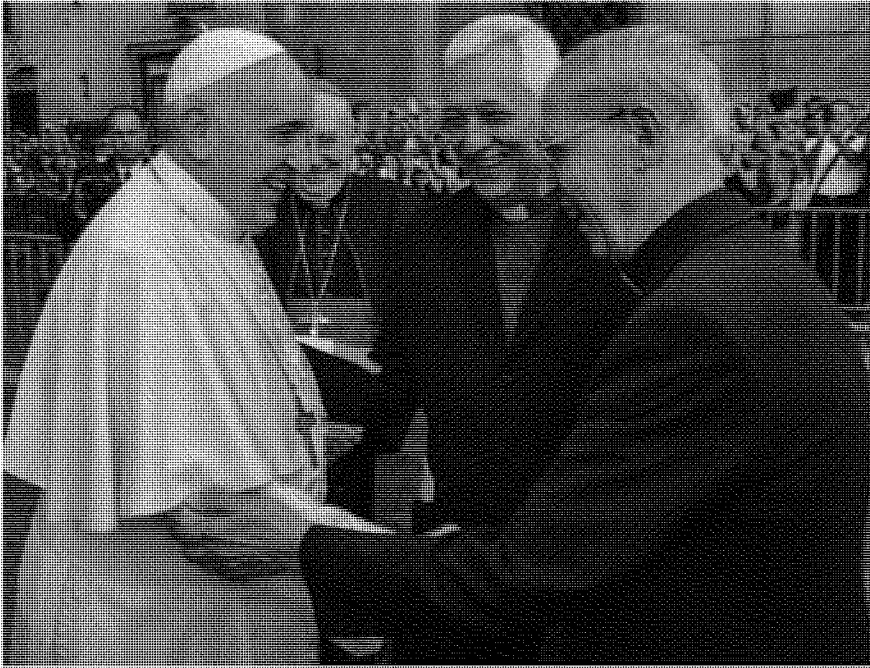


HELL IS EMPTY
AND
ALL THE DEVILS
ARE HERE

WILLIAM SHAKESPEARE

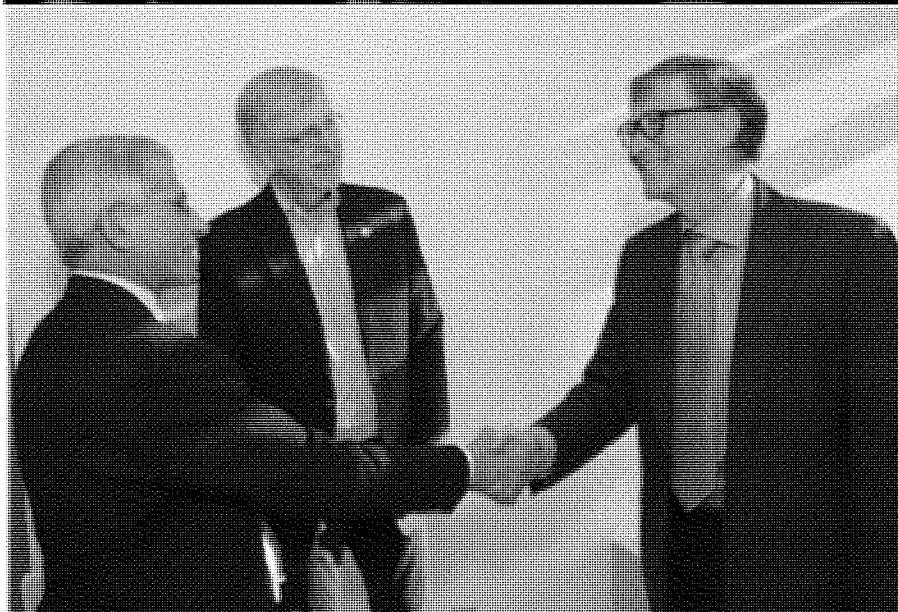


"They are called the Society or Company of Jesus, the latter designation expressing more correctly the military idea of the founder, which was to establish, as it were, a new battalion in the spiritual army of the Catholic Church."—The Encyclopedia Americana, art. "Jesuits."

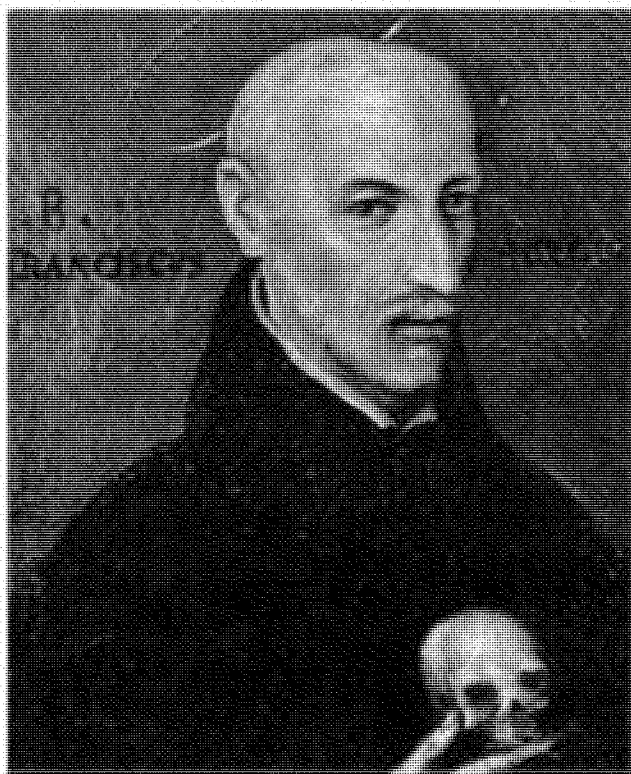


T
E
C
S
I
E
C
C
Z
t
Z
V
F
e
f
t
C
f
V
e
.

Adolfo Nicholas SJ (right) with Pope Francis







Portrait of a Jesuit Saint: San Francisco de Borja, 1726



The merited odium which has overtaken the Inquisition, usually officered by Dominicans, has induced the Jesuits, whose own controversial method has for the most part been different, to disclaim all connection with that tribunal, and to represent their society as free from complicity in its acts. But, in truth, it was Ignatius Loyola himself who procured its erection in Portugal in 1545-6, and F. Nithard, one of the very few cardinals of the society, was inquisitor-general of that kingdom in 1633.

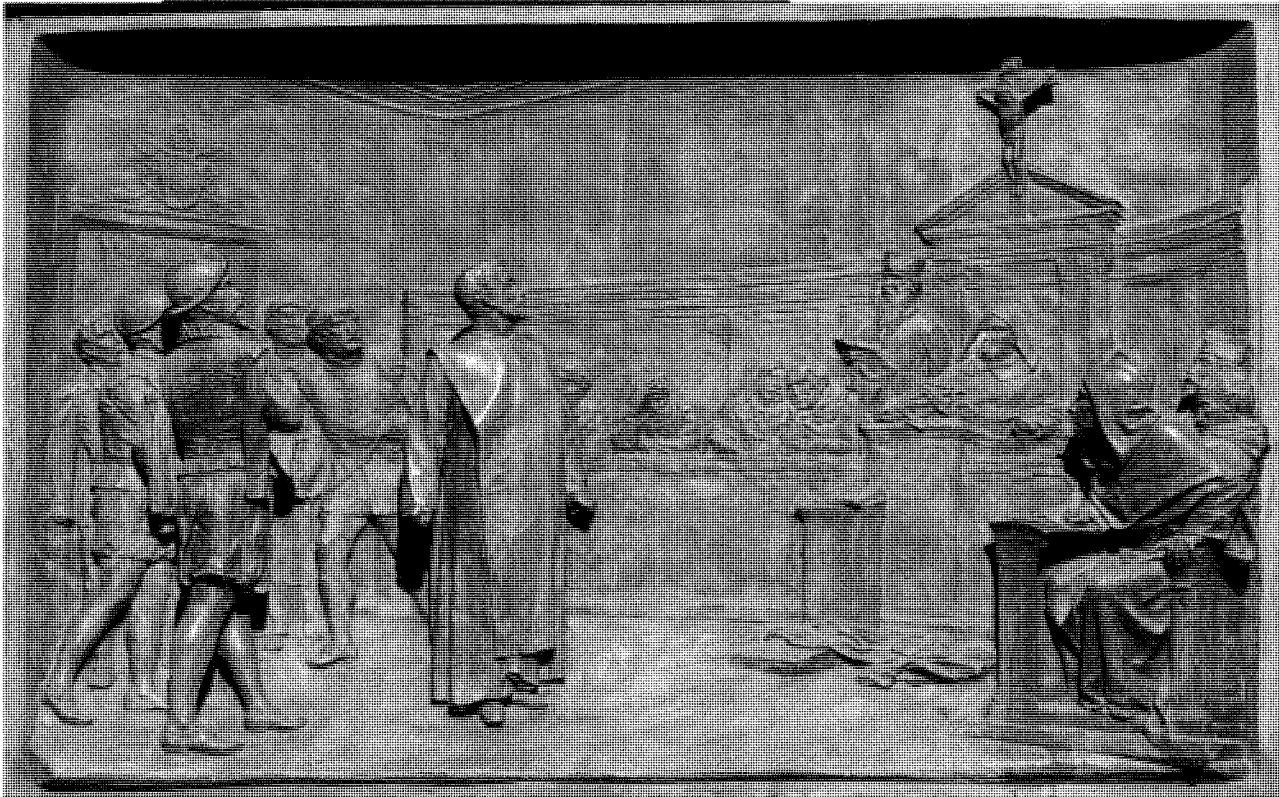
The Founder of the Society of Jesus (Jesuit) Ignatius de Loyola himself procured its [the inquisition] erection in Portugal in 1545-6 (The Encyclopaedia Britannica: A Dictionary of Arts, Sciences, Volume 13)

Photo:- Jesuit Francisco Antonio de Lorenzana, Grand Inquisitor of Spain (1794–1797) - https://en.wikipedia.org/wiki/Francisco_Antonio_de_Lorenzana



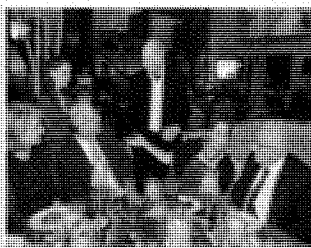
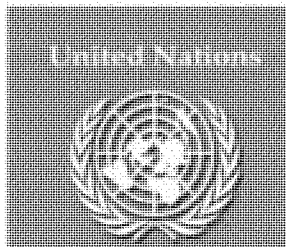


Pope Clement made him a Cardinal Inquisitor, in which capacity he served as one of the judges at the trial of Giordano Bruno, [https://en.wikipedia.org/wiki/Giordano Bruno](https://en.wikipedia.org/wiki/Giordano_Bruno) and concurred in the decision which condemned Bruno to be burned at the stake as a

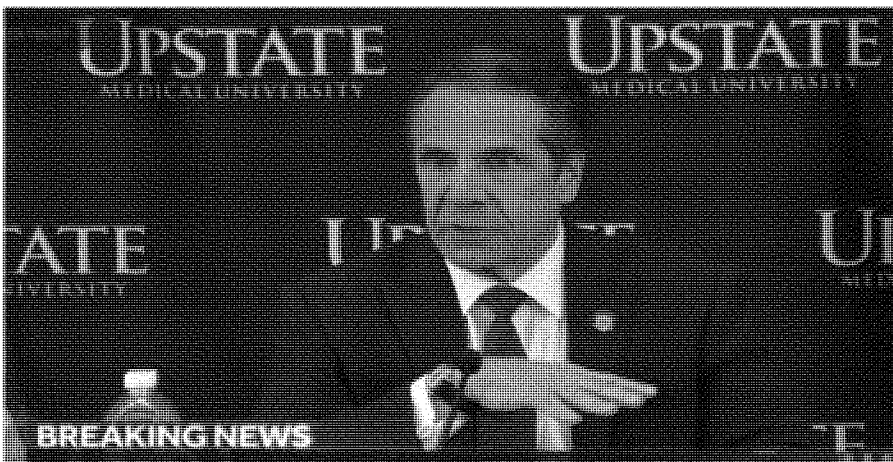


Pope Francis the Jesuit Pope & promoter of the World Lockdown in 2020 with UN Chief António Manuel de Oliveira Guterres .

Remarks by His Holiness The Jesuit Pope Francis and fellow Roman Catholic , United Nations Secretary-General António Guterres - <https://www.youtube.com/watch?v=CePSM3QMkEQ>



UN = World Government / Jacob Rothschild standing, Kissinger seated right.



Jesuit Coadjutor, Andrew Mark Cuomo flattening the curve ,
<https://www.youtube.com/watch?v=m8nCjNk3djc>

Andrew Mark Cuomo born December 6, 1957)
 Roman Catholic

<https://www.nndb.com/lists/758/000094476/>

Executive Summary:- Corona Virus Hoaxer

During his governorship, Cuomo oversaw the passage of a law legalizing same-sex marriage in New York; creation of the United States Climate Alliance, a group of states committed to fighting climate change by following the terms of the Paris Climate Accords; passage of the strictest gun control law in the U.S.; His parents were both of Italian descent; his paternal grandparents were from Nocera Inferiore and Tramonti in southern Italy, while his maternal grandparents were from Sicily His younger brother, Chris Cuomo, is a CNN journalist.

Andrew graduated from Roman Catholic St. Gerard Majella's School in 1971 a private Roman Catholic elementary school <https://www.privateschoolreview.com/st-gerard.../11423> and Archbishop Molloy High School in 1975 in Brooklyn NY https://en.wikipedia.org/wiki/Archbishop_Molloy_High_School He received a B.A. from Jesuit Fordham University in 1979, https://en.wikipedia.org/wiki/Fordham_University Cuomo will not release state death lists, nor did he order autopsies in this public health emergency as required!



Chris Cuomo

Jesuit Coadjutor, Chris Cuomo

AKA Christopher Charles Cuomo

Born: 9-Aug-1970

Birthplace: Queens, NY

Gender: Male

Religion: Roman Catholic

Race or Ethnicity: White

Sexual orientation: Straight

Occupation: Journalist

Nationality: United States

Executive summary: Co-Host, CNN New Day (Corona Virus Hoaxer)

Father: Mario Cuomo (Governor of New York, b. 15-Jun-1932, d. 1-Jan-2015)

Mother: Matilda Raffa

Sister: Margaret I. Cuomo

Brother: Andrew Cuomo (Governor of New York, b. 6-Dec-1957)

Sister: Maria Cuomo (m. Kenneth Cole)

Sister: Madeline Cuomo

Wife: Cristina Greeven (m. 24-Nov-2001, two daughters, one son)

Daughter: Bella

Daughter: Carolina Regina (b. 2011)

Son: Mario (b. 2005)

High School: The Albany Academy

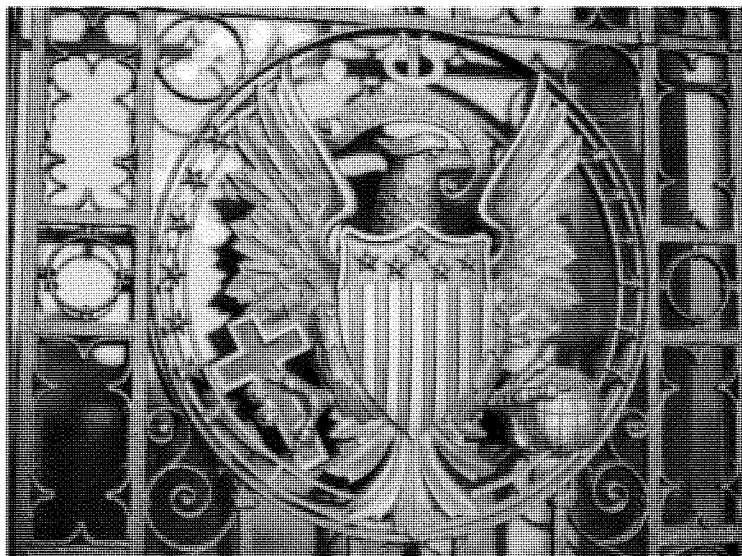
University: BA, Yale University

Law School: JD, Fordham University (1995) (jesuit)



The Dark Side of Andrew Cuomo finally exposed

<https://www.bitchute.com/video/EnV06Fabkq6Z/>



This email has been checked for viruses by Avast
antivirus software.
www.avast.com

From: Bush School - Scowcroft Institute [bushschoolscowcroft@tamu.edu]
Sent: 11/23/2020 3:00:29 PM
Subject: You're Invited - 6th Annual Pandemic Policy Summit: Protecting the Bioeconomy

A white surgical mask is centered in the background of the title section.

6th Annual Pandemic Policy Summit PROTECTING THE BIOECONOMY COVID-19, Challenges, and Technology

December 1 & 2, 2020, via Zoom
8:00 a.m. to 12:00 p.m. CST

The Scowcroft Institute of International Affairs' Pandemic and Biosecurity Policy Program at the Bush School of Government and Public Service at Texas A&M University invites you to join us our 6th Annual Pandemic Policy Summit.

This year's Summit will feature the bioeconomy, including: technologies that present the greatest potential and threats; the intellectual property and legal challenges that exist in protecting the bioeconomy; and the COVID-19 pandemic. The event will be led by Andrew Natsios, Director of the Scowcroft Institute and former USAID Administrator, and moderated by Dr. Gerald Parker, former Principal Deputy Assistant Secretary of ASPR.

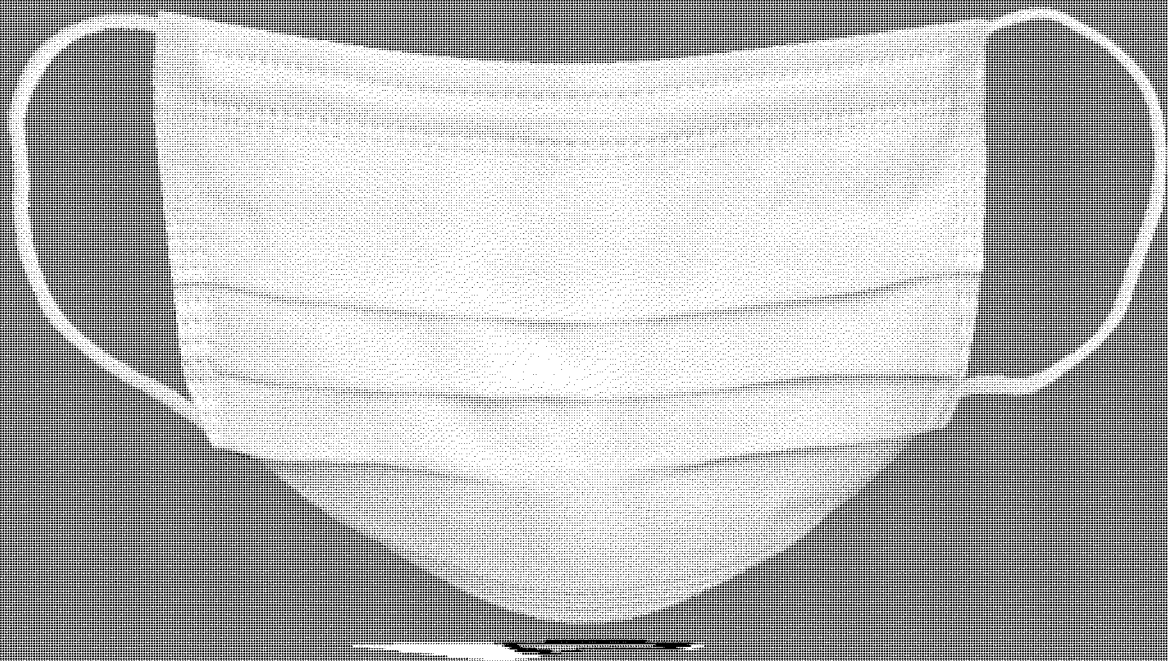
[RSVP to receive the Zoom log-in.](#)

Visit our [website](#) to view the schedule.

Keynote Address



Rosemary Gibson is author of *China Rx: Exposing the Risks of America's Dependence on China for Medicine*, which reveals the dramatic shift in where medicines are made and growing concerns about their quality. It highlights the centralization of the global supply of medicines in a single country and implications in the event of a global pandemic, natural disaster, or geopolitical event. Ms. Gibson is Senior Advisor at the Hastings Center and is recipient of the American Medical Writers Association Award for her outstanding contributions to the public interest in reporting on critical health care issues. She serves on the MedStar Institute for Quality and Patient Safety Advisory Board in Washington, DC.



FDA-CBER-2020-5341-0006891

From: Bush School - Scowcroft Institute [bushschoolscowcroft@tamu.edu]
Sent: 11/5/2020 2:26:27 PM
Subject: You're Invited - 6th Annual Pandemic Policy Summit: Protecting the Bioeconomy

A white surgical mask is centered in the background of the title section.

6th Annual Pandemic Policy Summit PROTECTING THE BIOECONOMY COVID-19, Challenges, and Technology

December 1 & 2, 2020, via Zoom
8:00 a.m. to 12:00 p.m. CST

The Scowcroft Institute of International Affairs' Pandemic and Biosecurity Policy Program at the Bush School of Government and Public Service at Texas A&M University invites you to join us our 6th Annual Pandemic Policy Summit.

This year's Summit will feature the bioeconomy, including: technologies that present the greatest potential and threats; the intellectual property and legal challenges that exist in protecting the bioeconomy; and the COVID-19 pandemic. The event will be led by Andrew Natsios, Director of the Scowcroft Institute and former USAID Administrator, and moderated by Dr. Gerald Parker, former Principal Deputy Assistant Secretary of ASPR.

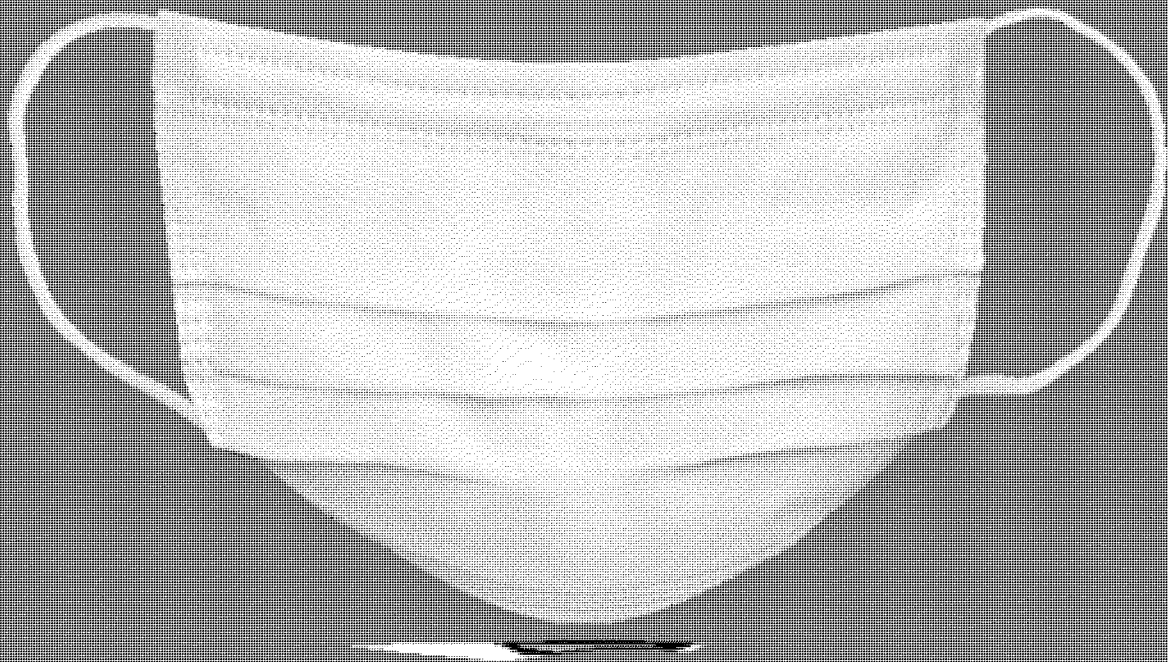
[RSVP to receive the Zoom log-in.](#)

Visit our [website](#) to view the schedule.

Keynote Address



Rosemary Gibson is author of *China Rx: Exposing the Risks of America's Dependence on China for Medicine*, which reveals the dramatic shift in where medicines are made and growing concerns about their quality. It highlights the centralization of the global supply of medicines in a single country and implications in the event of a global pandemic, natural disaster, or geopolitical event. Ms. Gibson is Senior Advisor at the Hastings Center and is recipient of the American Medical Writers Association Award for her outstanding contributions to the public interest in reporting on critical health care issues. She serves on the MedStar Institute for Quality and Patient Safety Advisory Board in Washington, DC.



FDA-CBER-2020-5341-0006894

From: vinu arumugham [(b)(6)]@yahoo.com]
Sent: 9/3/2020 2:52:52 AM
To: Asbjorn.Christophersen@rr-research.no; melinda.raki@rr-research.no; petter.hare@sshf.no; sumida-
tky@umin.ac.jp; mariateresa.gorgitano@unina.it; jo.wilmshurst@uct.ac.za; mark_zielinski@hms.harvard.edu;
Liping.yu@ucdenver.edu; absah.imad@mayo.edu; lo.184@osu.edu; nbarberis@unime.it; mquattropani@unime.it;
fcuzzocrea@unime.it; ffbanares@mutuaterrassa.es; BL114@columbia.edu; mstolar@gastro.org;
ain1@columbia.edu; marian.rewers@uchsc.edu; linda.wicker@cimr.cam.ac.uk;
edward.hoffenberg@childrenscolorado.org; Ann.kulungowski@childrenscolorado.org; jill.simmons@uchsc.edu;
jill.norris@uchsc.edu; john.hokanson@uchsc.edu; [(b)(6)]@gmail.com; ketil.stordal@fhi.no;
secretariat@easd.org; operations@esot.org; Bala.appakalai@louisville.edu; Helmut.Arbogast@med.uni-
muenchen.de; [(b)(6)]@gmail.com; Hyassine@qu.edu.qa; katrin.nagl@meduniwien.ac.at;
nicole.prinz@uni-ulm.de; t.reinehr@kinderklinik-datteln.de; katharina.warncke@mri.tum.de; elisabeth.binder@i-
med.ac.at; reinhard.holl@uni-ulm.de; elke.froehlich-reiterer@medunigraz.at; endped@chl.lu; muco@chl.lu;
hschenkhuber@westpfalz-klinikum.de; christian.denzer@uniklinik-ulm.de; [(b)(6)]@hotmail.com;
jpham@cell.com; rkruger@cell.com; jdeguine@cell.com; sdodgson@cell.com; sgeisler@cell.com;
agoldstein@cell.com; srnarasimhan@cell.com; nneuman@cell.com; arennekamp@cell.com; lszewczak@cell.com;
jtan@cell.com; C.David.Allis@rockefeller.edu; genevieve.almouzni@curie.fr; amon_admin@mit.edu;
silvia.arber@fmi.ch; admin.auwerx@epfl.ch; ra27@columbia.edu; cori.bargmann@rockefeller.edu; Belkaid, Yasmine
(NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=78e0e7b728cd493aaf32885ce03a7c0d-HHS-YBelkai];
Wendy.Bickmore@hgu.mrc.ac.uk; joan_brugge@hms.harvard.edu; lec2014@med.cornell.edu; caox@immunol.org;
caox@nankai.edu.cn; ac347@cornell.edu; h.clevers@hubrecht.eu; jimjc@mit.edu; cravatt@scripps.edu;
daley.lab@childrens.harvard.edu; dangl@email.unc.edu; zhuang@chemistry.harvard.edu;
hongkui_deng@pku.edu.cn; pierpaolo.difiore@ieo.it; Bsedillos-jiron@bwh.harvard.edu;
selledge@genetics.med.harvard.edu; anne.ephussi@embl.de; marco.foiani@ifom.eu; fuchslb@rockefeller.edu;
yukiko.goda@riken.jp; joe.goldstein@utsouthwestern.edu; douglas.green@stjude.org; leng@MIT.EDU;
tjha@jhu.edu; dhaber@mgm.harvard.edu; holzbaur@pennmedicine.upenn.edu; nghh@gis.a-star.edu.sg;
hunter@salk.edu; jimhurley@berkeley.edu; kapoor@rockefeller.edu; narrykim@snu.ac.kr;
mcking@u.washington.edu; kingsley@stanford.edu; wendell.lim@ucsf.edu; frank.kirchhoff@uni-ulm.de;
jan.korbel@embl.de; mlemmon@mail.med.upenn.edu; beth.levine@utsouthwestern.edu; losick@mcb.harvard.edu;
lowes@mskcc.org; tm2472@columbia.edu; mmann@biochem.mpg.de; kcmartin@mednet.ucla.edu; j-
massague@ski.mskcc.org; mayor@ncbs.res.in; Misteli, Tom A (NIH) [/o=ExchangeLabs/ou=Exchange Administrative
Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=58d62005517e4d74add60f207b2f48e3-HHS-misteli];
Juleen.Zierath@ki.se; danesh@hms.harvard.edu; mogilner@cims.nyu.edu; paul.nurse@crick.ac.uk;
mittag@eva.mpg.de; Roy.Parker@Colorado.EDU; sadowskk@mskcc.org; pearce@ie-freiburg.mpg.de;
kplath@mednet.ucla.edu; clp3@columbia.edu; lalitar@u.washington.edu; young@wi.mit.edu; regev-
office@broadinstitute.org; aregev@broadinstitute.org; anne.ridley@bristol.ac.uk; h.saibil@mail.cryst.bbk.ac.uk;
sawyersc@mskcc.org; office-schoeler@mpi-muenster.mpg.de; schroer@jhu.edu; Kevan.Shokat@ucsf.edu;
a.surani@gurdon.cam.ac.uk; tanaka-kj@igakuken.or.jp; sohail.tavazoie@rockefeller.edu; thompsonc@mskcc.org;
jmlim@berkeley.edu; jonathan.weissman@ucsf.edu; welch@berkeley.edu; wilson@scripps.edu; Golding, Hana
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=0619807f66f6406d9ece442207c82c95-goldingh]; Khurana, Surender
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d6215b7e342d4622be59fa3d58501a6f-Khurana]; sli49@emory.edu;
elizabeth.deatrick@niaid.nih.gov; pwilson1@medicine.bsd.uchicago.edu; agewirtz@gsu.edu;
megan.hahn@fda.hhs.gov; goldmanb@stanford.edu; mario.cortese@stanford.edu; nroupha@emory.edu;
alan.embry@nih.gov; alex@lji.org; neuron@cell.com; jlandsberg@cell.com; mzirlinger@cell.com; tdobie@cell.com;
mfurman@cell.com; ckonen@cell.com; eniederst@cell.com; uschridde@cell.com; jshaw@cell.com;
lshipp@cell.com; emarcus@cell.com; eporro@cell.com; richard.hatchett@cepi.net; fg17882@bristol.ac.uk;
ripley.ballou@gskbio.com; nicole.lurie@cepi.net; jlg251@georgetown.edu; tom.monath@crozetbiopharma.com;
aabimiku@ihv.umaryland.edu; abarrett@utmb.edu; Ananda.Bandyopadhyay@gatesfoundation.org;
cbrechot@usf.edu; chappi@hsph.harvard.edu; Connie.s.schmaljohn.civ@mail.mil; Damon, Inger K (CDC)
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=42b35bd733a34c66a5698f43f7026e88-HHS-iad7-cd];
jamesrobinson@uchicago.edu; Jean.Lang@sanofipasteur.com; john.k.billington@gsk.com; kenji.shibuya@kcl.ac.uk;
Krause, Philip [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=00c6330fea0042fdb5571c3fdef792ed-krause];

mlevine@som.umaryland.edu; moorthyv@who.int; Bryant, Paula R (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eb42f9318014bbb8c14d39ef311d8f9-HHS-paula.b]; tkariuki@africaonline.co.ke; yves.levy@aphp.fr; faddo@wisc.edu; bradford.barham@wisc.edu; lebautista@wisc.edu; lmlberger@wisc.edu; wrbuckin@wisc.edu; meburns@wisc.edu; carlson@ssc.wisc.edu; jmcollins@wisc.edu; jaconwell@wisc.edu; nbarnes2@wisc.edu; kcurtis@ssc.wisc.edu; mcurtis3@wisc.edu; jason2@wisc.edu; ehrenthal@wisc.edu; felwert@ssc.wisc.edu; cengelmann@wisc.edu; mengelman@ssc.wisc.edu; jason.fletcher@wisc.edu; cfu@ssc.wisc.edu; fujimura@ssc.wisc.edu; tgerber@ssc.wisc.edu; cde@ssc.wisc.edu; grantm@ssc.wisc.edu; jan.greenberg@wisc.edu; jmgregory@ssc.wisc.edu; egrotsky@ssc.wisc.edu; sarah.halpernmeekin@wisc.edu; jenny.a.higgins@wisc.edu; lpjacobs@wisc.edu; fjones4@wisc.edu; hyunseung@stat.wisc.edu; dkaplan@education.wisc.edu; jkennan@ssc.wisc.edu; ajk@medicine.wisc.edu; mlight@ssc.wisc.edu; logan@ssc.wisc.edu; kmagnuson@wisc.edu; marsha.mailick@wisc.edu; kmalecki@wisc.edu; mmassoglia@ssc.wisc.edu; drmeyer1@wisc.edu; cmommaerts@wisc.edu; amukherjee@wisc.edu; jmullahy@wisc.edu; jnobles@ssc.wisc.edu; robrien@lafollette.wisc.edu; palloni@wisc.edu; patz@wisc.edu; ppeppard@wisc.edu; jraymo@ssc.wisc.edu; ferey@wisc.edu; sarobert@wisc.edu; schaeffer@ssc.wisc.edu; lschechter@wisc.edu; aschneider4@wisc.edu; cschwart@ssc.wisc.edu; aseshadr@ssc.wisc.edu; smeeding@lafollette.wisc.edu; econjeff@ssc.wisc.edu; psteiner@wisc.edu; ctaber@ssc.wisc.edu; tjernstroem@wisc.edu; walker@ssc.wisc.edu; wallace@lafollette.wisc.edu; tbwalsh@wisc.edu; yang.wang@lafollette.wisc.edu; mjwiswall@wisc.edu; wolfe@lafollette.wisc.edu; ysxiong2@wisc.edu; jzhu@stat.wisc.edu

Subject: Flu shot makes COVID-19 worse; Prof. Kounis and I link Kounis syndrome to COVID-19; Make Famotidine/Cetirizine SOC for COVID-19; COVID-19 vaccines are unsafe

Proteins that contaminate influenza vaccines have high homology to SARS-CoV-2 proteins thus increasing risk of severe COVID-19 disease and mortality

<https://doi.org/10.5281/zenodo.3996984>

My comment posted in the Annals of Internal Medicine

The iatrogenic cascade of illnesses

https://www.acpjournals.org/doi/full/10.7326/M20-2470#_comments

COVID-19 vaccines are **fundamentally flawed and unsafe**. Details below:

The CanSino Biologics vaccine:

<https://publons.com/r/9024531/>

The Oxford vaccine:

<https://publons.com/r/9015091/>

The Moderna mRNA vaccine:

<https://publons.com/r/9025990/>

The Pfizer/BioNTech vaccine:

<https://publons.com/r/9026177/>

Prof. Kounis' team and I, describe the common immunological mechanisms involved in cardiac injury in COVID-19, severe dengue infection and allergic reactions/anaphylaxis (Kounis syndrome). The medications for prevention/treatment include famotidine/cetirizine.

The passepartout wayfares of Covid-19, Cytokine storm and Kounis syndrome

<https://doi.org/10.5281/zenodo.3977923>

Dual-Histamine Blockade with Cetirizine - Famotidine Reduces Pulmonary Symptoms in COVID-19 Patients

<https://www.medrxiv.org/content/10.1101/2020.06.30.20137752v1>

I predicted in **JANUARY 2020** (email below) that mast cell stabilizers and antihistamines can help in COVID-19. I notified health authorities and thousands of doctors/researchers, worldwide. Hundreds of thousands of lives could have been saved.

The key is to understand that COVID-19 severity is a result of an allergic reaction to the virus, a "slow rolling anaphylaxis". WE HAVE PROVEN TREATMENTS FOR ANAPHYLAXIS. NO CLINICAL TRIALS NEEDED.

The diagnosis and management of anaphylaxis: An updated practice parameter

[https://www.jacionline.org/article/S0091-6749\(05\)00115-6/fulltext](https://www.jacionline.org/article/S0091-6749(05)00115-6/fulltext)

"These protocols have recommended the administration of H1 and H2 antagonists, ??-agonists, antileukotrienes, and corticosteroids."

Cetirizine is an histamine H1 blocker or antagonist. Famotidine is an histamine H2 blocker or antagonist.

These safe, OTC drugs above can be used immediately upon COVID-19 symptoms (or even a low dose if exposure is suspected). Mast cell stabilizers, ??-agonists, antileukotrienes, and corticosteroids can be prescribed as standard of care. Hundreds of thousands of lives can be saved.

As I wrote in my comment posted in the Annals of Internal Medicine:

Please see comments section:

<https://annals.org/aim/fullarticle/2764199/use-hydroxychloroquine-chloroquine-during-covid-19-pandemic-what-every-clinician>

Understanding mechanisms is better than demanding clinical trials in the middle of a pandemic

More details:

Immunological mechanisms explaining the role of IgE, mast cells, histamine, elevating ferritin, IL-6, D-dimer, VEGF levels in COVID-19 and dengue, potential treatments such as mast cell stabilizers, antihistamines, Vitamin C, hydroxychloroquine, ivermectin and azithromycin

<https://doi.org/10.5281/zenodo.3748303>

COVID-19: Famotidine, Histamine, Mast Cells, and Mechanisms

<https://www.researchsquare.com/article/rs-30934/v2>

Repositioning Chromones for Early Anti-inflammatory Treatment of COVID-19

<https://www.frontiersin.org/articles/10.3389/fphar.2020.00854/full>

<https://pubmed.ncbi.nlm.nih.gov/32013309/>

----- Forwarded Message -----

To: jay.slater@fda.hhs.gov <jay.slater@fda.hhs.gov>, jane.woo@fda.hhs.gov <jane.woo@fda.hhs.gov>, maureen.hess@fda.hhs.gov <maureen.hess@fda.hhs.gov>, Richard.Forshee@fda.hhs.gov <Richard.Forshee@fda.hhs.gov>, Mark.Walderhaug@fda.hhs.gov <Mark.Walderhaug@fda.hhs.gov>, CBER OCOD Consumer Account <cberocod@fda.hhs.gov>, Destefano, Frank (CDC/OID/NCEZID) <fxd1@cdc.gov>, isq8@cdc.gov <isq8@cdc.gov>, nar5@cdc.gov <nar5@cdc.gov>, hjn0@cdc.gov <hjn0@cdc.gov>, Secretary@HHS.gov <Secretary@HHS.gov>, CommissionerFDA@fda.hhs.gov <CommissionerFDA@fda.hhs.gov>, olx1@cdc.gov <olx1@cdc.gov>, directorsincoming@cdc.gov <directorsincoming@cdc.gov>, francis.collins@nih.gov <francis.collins@nih.gov>, mrolfes1@cdc.gov <mrolfes1@cdc.gov>, xzd2@cdc.gov <xzd2@cdc.gov>, acy9@cdc.gov <acy9@cdc.gov>, dbj0@cdc.gov <dbj0@cdc.gov>, jmk9@cdc.gov <jmk9@cdc.gov>, tft9@cdc.gov <tft9@cdc.gov>, gll9@cdc.gov <gll9@cdc.gov>, sharplessne@nih.hhs.gov <sharplessne@nih.hhs.gov>, tnc4@cdc.gov <tnc4@cdc.gov>, kok4@cdc.gov <kok4@cdc.gov>, rxl3@cdc.gov <rxl3@cdc.gov>, gbq7@cdc.gov <gbq7@cdc.gov>, fwf7@cdc.gov <fwf7@cdc.gov>, megan.mcseveney@fda.hhs.gov <megan.mcseveney@fda.hhs.gov>, afauci@niaid.nih.gov <afauci@niaid.nih.gov>, Emelia.Benjamin@bmc.org <Emelia.Benjamin@bmc.org>, mjessup@leducq.com <mjessup@leducq.com>, tavori@ohsu.edu <tavori@ohsu.edu>, jessica.lilley@vanderbilt.edu <jessica.lilley@vanderbilt.edu>, web@beaslevallen.com <web@beaslevallen.com>.

dr.flegg@bfwhospitals.nhs.uk
[<dr.flegg@bfwhospitals.nhs.uk>](mailto:dr.flegg@bfwhospitals.nhs.uk)

IgE mediated sensitization to peptides that have homology to 2019-nCoV peptides may contribute to disease severity. In that case, antihistamines and other allergy treatments such as mast cell stabilizers may help reduce infection severity.

A BLASTP analysis of 2019-nCoV proteome against common vaccine antigens was performed. Preliminary results suggest that IgE mediated sensitization to common vaccine antigens can result in cross reactive immune responses to 2019-nCoV.

Please see details of the mechanisms here:

Influenza vaccines and dengue-like disease

<https://www.bmj.com/content/360/bmj.k1378/rr-15>

<https://www.quora.com/Why-was-the-flu-so-deadly-in-outbreaks-in-the-past-And-what-made-the-flu-become-less-deadly/answers/86456279>

"Scientists" at the global vaccine safety summit spill the beans: There is no science behind vaccine safety claims, it's a fairy tale.

The party is over folks.

<https://youtu.be/s2IujhTdCLE>

ERVEBO Ebola vaccine will create a rice allergy epidemic, add to numerous autoimmune diseases, cancer and make Ebola disease even more severe. Design for safety and vaccine safety regulation remain abject failures. Incompetence or indifference?

<https://doi.org/10.5281/zenodo.3595020>

Analyzing 23000+ epitopes covering 82 autoimmune diseases in the Immune Epitope Database, 57% have only one and 78% have up to two amino acid residue differences compared to animal, fungal or plant peptides present in vaccines; an unmistakable signature of the role of vaccines in their etiologies

<https://doi.org/10.5281/zenodo.3603480>

Analyzing 23000+ epitopes covering 82 autoimmune diseases in the Immune Epitope Database, 57% have only one and 78% have up to two amino acid residue differences compared to animal, fungal or plant peptides present in vaccines; an unmistakable signature of the role of vaccines in their etiologies

Lay summary

Proteins are a chain of amino acids. Proteins can have up to several hundred amino acids. Snippets of proteins (peptides), 7-15 amino acids in length are important in immunology. There are 20 types of amino acids. Each is assigned a letter (1 letter code).

Antibodies are proteins that can bind to peptides that have a specific amino acid sequence. Such a target peptide is known as an epitope.?? When an antibody binds to a peptide (which is part of a protein, which in turn may be part of a cell surface), it can trigger an immune attack on the cell. If the cell were a bacterium, the bacterium would be killed.

Humans (like all organisms) are made of numerous proteins (self proteins). So we have self-proteins, self-peptides and self-epitopes. In a healthy person, the body will not make antibodies that bind strongly to self-peptides (self-tolerance).

DNA is a chain of base-pairs. The DNA base-pair sequence determines the amino acid sequence in the protein produced. If there is a mutation that alters a single base-pair, the resulting protein will have a single amino acid that is altered. To prevent cancer, the immune system is capable of making antibodies against such altered peptides. Such antibodies can also weakly bind (cross react) to the unaltered normal peptide thus resulting in destruction of some healthy cells.

Say a normal protein has the following peptide (10 amino acids, each represented by its 1 letter code):

ALSTLVVNKI

Say DNA in a cell mutates due to a carcinogen exposure and it alters the protein thus resulting in this peptide with a single amino acid change:

ALSTLVVSKI

When the immune system makes antibodies targeted at ALSTLVVSKI (to attack the cell with the DNA mutation), the same antibodies can weakly bind to the normal ALSTLVVNKI peptide.

ALSTLVVNKI is an epitope associated with rheumatoid arthritis (RA).

So as a result of the immune system defending against cancer, the person can develop RA.

Now consider vaccines containing animal proteins. Animal proteins are very similar to human proteins, containing only occasional amino acid differences. An animal peptide could therefore have the ALSTLVVSKI sequence. Such a vaccine would fool the immune system into creating an anti-cancer immune response, creating antibodies targeted at ALSTLVVSKI. The result is vaccine induced RA.

Therefore one can predict that analyzing epitopes associated with autoimmune diseases, such single amino acid difference compared to animal peptides present in vaccines, would occur more frequently than can be expected merely by chance. The analysis confirms that this prediction is valid.

Abstract

The National Institute of Allergy and Infectious Diseases (NIAID) sponsors the Immune Epitope Data Base (IEDB). IEDB contains epitopes identified from the medical literature and organized by diseases and categories of diseases. All epitopes (23000+) associated with 82 autoimmune diseases in humans were analyzed.

The role of animal, plant, fungal proteins contained in vaccines in the etiology of autoimmune diseases have been described in humans and animals. BLASTP was used to analyze IEDB derived epitopes for sequence alignment to animal, plant, fungal (APF) proteins present in vaccines and biologics. Specifically, the search was performed against bovine, chicken, porcine, guinea pig, African green monkey, Chinese hamster, murine, peanut, soy, wheat, corn, sesame and *Saccharomyces cerevisiae* proteomes.

The results show that 57% of epitopes differed by exactly one amino acid residue from an APF peptide. 78% of the epitopes differed by up to two amino acid residues from an APF peptide. The rest of the epitopes were either identical or differed by more than two amino acid residues.

A majority of IEDB epitopes analyzed were 9-mer peptides. Comparing randomly selected 9-mer human peptides with APF proteomes, the probability of single amino acid residue difference (SAARD) outcomes was derived. This was used to estimate the probability that actual IEDB SAARD alignments to APF peptides were merely a chance outcome. The estimates show that the probability that the observed IEDB alignments to APF being merely a chance outcome are vanishingly small. So the results make it absolutely clear that APF proteins in vaccines cause all these autoimmune diseases.

Introduction

Vaccines contain thousands of residual animal, plant and fungal (APF) proteins from the manufacturing process (1)???. 293 chicken proteins were identified in the influenza vaccine (7)???, for example. Actin and vimentin proteins were detected in the Priorix Tetra vaccine (8)???. Immunization with homologous xenogeneic antigens resulting in autoimmune diseases has been known for at least 40 years (9)???. Vaccines that contain bovine proteins caused autoimmunity in dogs (10)???. We previously described the immunological mechanism involved in autoimmunity induction by immunization with homologous xenogeneic antigens (11)???

Cancer cells have minor differences when compared to healthy cells. Due to mutation of the DNA encoding the proteins, cancer cells can display altered proteins on their surface. Healthy cancer defense mechanisms include immune responses directed at such altered proteins. Therefore an immune response directed against cancer cells always carries a risk of cross reactive immune responses against healthy cells displaying the unaltered protein. Therefore, cancer induced autoimmune responses are a consequence of normal, healthy immune system behavior.

Animal proteins have minor differences compared to human proteins. Peptides that are identical between humans and animals are unlikely to cause any problem due to strong self tolerance. However, peptides with one amino acid residue difference produce the strongest cross reactive immune responses (11)???. They are ideally suited to induce autoimmune diseases. Injecting animal proteins results in anti-cancer immune responses because the immune system perceives animal proteins as altered human proteins. Adjuvants in the vaccine boost this anti-cancer immune response. This artificial anti-cancer response directed at thousands of APF proteins in vaccines or biologics, therefore cross react and cause numerous autoimmune disorders.

For this reason, one can predict that single amino acid residue difference (SAARD) between autoimmune disease related epitopes in the IEDB and homologous APF peptides in vaccines, would occur at a higher probability than by mere chance. We perform a BLASTP analysis to verify.

Methods

Basic local alignment search tool for proteins (BLASTP) (12)???, Universal Protein Resource (UniProt)(13)??? and the Immune Epitope Database (IEDB) (14)??? were used for bioinformatics analysis.

Specifically, the BLASTP sequence alignment of IEDB peptides was performed against bovine, chick, porcine, guinea pig, African green monkey, Chinese hamster, murine, peanut, soy, wheat, corn, sesame and *Saccharomyces cerevisiae* proteomes. Vaccines and biologics contain residual proteins from all these organism due to media used to grow viruses or bacteria, recombinant cells/organisms used for protein expression or as excipients.

Results

57% of IEDB peptides have a SAARD and 78% have up to two amino acid differences compared to animal, fungal or plant peptides present in vaccines.

Discussion

Could this result be a chance occurrence?

A majority of IEDB epitopes analyzed were 9-mer peptides. Five thousand 9-mer peptides were chosen at random from the human proteome. BLASTP was run using these peptides to compare against each organism???s proteome or a subset. This provides us the probability that randomly selected human peptides have an alignment providing a SAARD compared to peptides from these organisms. These are listed in table 1 under ??? Random SAARD alignment???. Given this, we can compute the probability of the actual SAARD alignment to IEDB epitopes, occurring by chance. This is listed in table 1 under ???Estimated probability of actual SAARD outcome occurring just by chance???.

For a simple coin toss example, we would perform the calculation as follows:

Computing probability of say a 7 heads, 3 tails outcome of 10 trials of a fair coin:

$$\text{Probability} = (0.5^7) \times (0.5^3) \times 10! / (7! \times 3!)$$

Where:

0.5 is the probability of a head or tail outcome of a fair coin.

For an unfair coin, say probability of head outcome = 0.4 and tail outcome 0.6, we would have:

$$\text{Probability} = (0.4^7) \times (0.6^3) \times 10! / (7! \times 3!)$$

For the IEDB peptide probability analysis, the outcome is for 23192 trials (peptides).

The ???head outcome??? is the ???Random SAARD alignment ??? entries in table 1. The ???tail outcome??? probability is 1-???head outcome???.

Sample calculation for Chinese Hamster:

$$\text{Probability} = ((889/5000)^{4574}) \times ((4111/5000)^{18618}) \times 23192! / (4574! \times 18618!)$$

$$\text{Probability} = 1.488\text{e-}15$$

Where: $889 \times 100 / 5000 = 17.8\%$ is the entry in Table 1 for Chinese Hamster. BLASTP analysis shows 889 SAARD out of 5000 peptides analyzed.

And, $4574 \times 100 / 23192 = 19.7\%$ is the IEDB entry in Table 1 for Chinese Hamster. BLASTP analysis shows 4574 SAARD out of 23192 peptides analyzed.

So the $1.488e-15$ value is the probability that we will have exactly 4574 SAARD alignments out of 23192 peptides. The probability goes down for all values > 4574 . Conservatively, applying the same probability as for 4574, to all values > 4574 , we can calculate the probability of the chance occurrence of 4574 or greater number of SAARD alignments as $1.488e-15 \times 18618 = 27e-12$, entry in table.

The Gnome calculator was used to perform these calculations and the results were verified using the Qalculate! calculator and WolframAlpha (15)??? since spreadsheets are unable to perform these calculations.

Table 1

| Organism | Random SAARD alignment Number of Peptides(%) | Actual (IEDB) SAARD alignment Number of Peptides (%) | Estimated probability of actual SAARD outcome occurring just by chance | Remarks |
|--|--|--|--|---|
| African green monkey (<i>Chlorocebus aethiops</i>) | 26 (0.5) | 420 (1.8) | $\sim 1.7e-96$ | Probability of this outcome occurring just by chance is vanishingly small. So these animal proteins in vaccines, caused these diseases. |
| Cow (<i>Bos taurus</i>) | 936 (18.7) | 4385 (18.9) | ~ 1 | There are two possibilities. (1) This outcome occurred just by chance. (2) The assumption that all cow proteins are present in the vaccines in equal amount is not true. We know that cow???s milk, bovine gelatin, bovine serum albumin are used in vaccines. So these proteins and proteins present in tissues in the vicinity, are included in vaccines but other cow proteins may not be present. This is the more likely explanation. Please see Cow???s milk entry below. |
| Cow???s Milk (<i>Bos taurus</i>) | 0 (0) | 12 (0.05) | 0 | Probability of this outcome occurring just by chance is 0. So these animal proteins in vaccines, caused these diseases. |
| Chinese Hamster (<i>Cricetulus griseus</i>) | 889 (17.8) | 4574 (19.7) | $\sim 27e-12$ | Probability of this outcome occurring just by chance is vanishingly small. So these animal proteins in vaccines, biologics caused these diseases. |

| Organism | Random SAARD alignment Number of Peptides(%) | Actual (IEDB) SAARD alignment Number of Peptides (%) | Estimated probability of actual SAARD outcome occurring just by chance | Remarks |
|--|--|--|--|--|
| Chicken (<i>Gallus gallus</i>) | 536 (10.7) | 3901 (16.8) | <1e-100 | Probability of this outcome occurring just by chance is vanishingly small. So these animal proteins in vaccines, caused these diseases. Unlike bovine, porcine and murine proteins, since chicken egg or embryo is used for vaccine manufacture, all chicken proteins can be present in vaccines. |
| Guinea Pig (<i>Cavia porcellus</i>) | 837 (16.7) | 4439 (19.1) | ~1e-18 | Probability of this outcome occurring just by chance is vanishingly small. So these animal proteins in vaccines, caused these diseases. |
| Mice (<i>Mus musculus</i>) | 940 (18.8) | 4467 (19.3) | ~1 | There are two possibilities. (1) This outcome occurred just by chance. (2) The assumption that all mice proteins are present in biologics in equal amount is not true. We know that mice myeloma cells are used in biologics. So these proteins and proteins present in tissues in the vicinity, are present in biologics but other mice proteins may not be present. This is the more likely explanation. |
| Maize (<i>Zea mays</i>) | 303 (6.1) | 1667 (7.2) | ~5e-9 | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |
| Peanut (<i>Arachis hypogaea</i>) | 223 (4.5) | 1697 (7.3) | ~79e-81 | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |
| Yeast (<i>Saccharomyces cerevisiae</i>) | 64 (1.3) | 828 (3.6) | <1e-100 | Probability of this outcome occurring just by chance is vanishingly small. So these fungal proteins in vaccines, biologics caused these diseases. |
| Sesame (<i>Sesamum indicum</i>) | 155 (3.1) | 1398 (6.0) | <1e-100 | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |

| Organism | Random SAARD alignment Number of Peptides(%) | Actual (IEDB) SAARD alignment Number of Peptides (%) | Estimated probability of actual SAARD outcome occurring just by chance | Remarks |
|------------------------------------|--|--|--|---|
| Soy (<i>Glycine max</i>) | 215 (4.3) | 1548 (6.7) | $\sim 86e-59$ | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |
| Pig (<i>Sus scrofa</i>) | 963 (19.3) | 4407 (19.0) | ~ 1 | There are two possibilities. (1) This outcome occurred just by chance. (2) The assumption that all porcine proteins are present in the vaccines in equal amount is not true. We know that porcine gelatin is used in vaccines. So these proteins and proteins present in tissues in the vicinity are included in vaccines but other porcine proteins may not be present. This is the more likely explanation. |
| Wheat (<i>Triticum aestivum</i>) | 138 (2.8) | 977 (4.2) | $\sim 18e-33$ | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |

The calculations make it clear that the findings cannot be merely a chance outcome and that immunization against animal/plant/fungal antigens in the vaccines do cause these autoimmune diseases in the IEDB.

Conclusion

Vaccines containing animal, plant or fungal proteins are extremely dangerous and cause numerous autoimmune diseases and cancer (16???19)???. All non-target proteins in vaccines must be immediately removed using processes such affinity chromatography (20)???

References

1. Kattan JD, Cox AL, Nowak-Wegrzyn A, Gimenez G, Bardina L, Sampson HA, et al. Allergic reactions to diphtheria, tetanus, and acellular pertussis vaccines among children with milk allergy. J Allergy Clin Immunol. 2011;Conference(var.pagings):AB238.
2. Arumugham V. Oxford Vaccine Group Vaccine Knowledge Project???'s Vaccine Ingredient and vaccine safety misinformation exposed [Internet]. 2019 [cited 2019 Dec 11]. Available from: <https://doi.org/10.5281/zenodo.3477854>

3. National Academies of Sciences and Medicine E. Finding a Path to Safety in Food Allergy: Assessment of the Global Burden, Causes, Prevention, Management, and Public Policy. Stallings VA, Oria MP, editors. Washington, DC: The National Academies Press; 2017.
4. Gardasil Package Insert [Internet]. Available from: <http://www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM111263.pdf>
5. ENGERIX-B HIGHLIGHTS OF PRESCRIBING INFORMATION [Internet]. Available from: <https://www.fda.gov/media/79341/download>
6. Arumugham V, Trushin M V. Role of NMDA receptor autoimmunity induced by food protein containing vaccines, in the etiology of autism, type 1 diabetes, neuropsychiatric and neurodegenerative disorders [Internet]. International Journal of Pharmaceutical Research. 2019 [cited 2019 Apr 15]. p. 428??37. Available from: <https://doi.org/10.5281/zenodo.1463600>
7. Jacob L, Leib R, Ollila HM, Bonvalet M, Adams CM, Mignot E. Comparison of Pandemrix and Arepanrix, two pH1N1 AS03-adjuvanted vaccines differentially associated with narcolepsy development. Brain Behav Immun. 2015 Jul;47:44??57.
8. Corvelva. Vaccinegate:Study on the chemical composition profile of Priorix Tetra [Internet]. 2018 [cited 2019 Aug 24]. Available from: <https://drive.google.com/file/d/1cNtdBczAX1-xowPEDep1kZOjy84IypAB/view>
9. Arumugham V. Vaccination with bovine, chick, yeast antigens synthesizes cross-reactive antibodies targeting human acetylcholine receptor and MuSK protein to cause Myasthenia Gravis: Confirmed by natural experiment (VAERS data), bioinformatics, case reports, animal experiments and titer study [Internet]. 2019 [cited 2019 Sep 16]. Available from: <https://doi.org/10.5281/zenodo.3421558>
10. Hogenesch H, Azcona-Olivera J, Scott-Moncrieff C, Snyder PW, Glickman LT. Vaccine-induced autoimmunity in the dog. Adv Vet Med. 1999;41:733??47.
11. Arumugham V, Trushin M V. Cancer immunology, bioinformatics and chemokine evidence link vaccines contaminated with animal proteins to autoimmune disease: a detailed look at Crohn??s disease and Vitiligo. J Pharm Sci Res. 2018;10(8):2106.
12. Altschul SF, Madden TL, Sch??ffer AA, Zhang J, Zhang Z, Miller W, et al. Gapped BLAST and PSI-BLAST: a new generation of protein database search programs. Nucleic Acids Res. 1997;25(17):3389??402.
13. UniProt: the universal protein knowledgebase. Nucleic Acids Res. 2017 Jan 4;45(D1):D158??69.
14. Vita R, Mahajan S, Overton JA, Dhanda SK, Martini S, Cantrell JR, et al. The Immune Epitope Database (IEDB): 2018 update. Nucleic Acids Res. Oxford University Press; 2019;47(D1):D339??43.
15. Wolfram|Alpha: Computational Intelligence [Internet]. [cited 2020 Jan 8]. Available from: <https://www.wolframalpha.com/>
16. Arumugham V. Vaccines and Biologics injury table based on mechanistic evidence ??? Mar 2019 [Internet]. 2019 [cited 2019 May 16]. Available from: <https://zenodo.org/record/2582635/files/viittoc0302http.pdf?download=1>
17. Arumugham V. As predicted, animal protein containing biologics induce de novo autoimmune disorders [Internet]. 2019 [cited 2019 Dec 29]. Available from: <https://doi.org/10.5281/zenodo.3483322>

18. Arumugham V. Expanding ASIA to GAVIDOTTIR???: GAMut of Vaccine Induced Damage emphasizing Off Target Immune Responses [Internet]. 2019 [cited 2019 Oct 23]. Available from: <https://doi.org/10.5281/zenodo.3478840>
19. Arumugham V. Role of anti-carbonic anhydrase 2 antibodies induced by vaccine antigens, in the etiology of acute myeloid leukemia and other malignancies [Internet]. 2019 [cited 2019 Nov 14]. Available from: <https://doi.org/10.5281/zenodo.3534442>
20. Zhao M, Vandersluis M, Stout J, Haupts U, Sanders M, Jacquemart R. Affinity chromatography for vaccines manufacturing: Finally ready for prime time? Vaccine. Netherlands; 2018 Apr;

From: Cesar Munoz-Fontela [munoz-fontela@bnitm.de]
Sent: 9/2/2020 3:21:32 PM
To: sandra.cordo [scordo@qb.fcen.uba.ar]; Pearl.Bamford@health.gov.au; Jin.Zhu@health.gov.au; Vasana Vasana [Vasana.Vasana@csiro.au]; kanta.subbarao@influenzacentre.org; kristine.macartney@health.nsw.gov.au; Kai Dallmeier [kai.dallmeier@kuleuven.be]; Johan Neyts [johan.neyts@kuleuven.be]; dustin.johnson@canada.ca; Li, Sean (HC/SC) [sean.li@canada.ca]; dean.smith@canada.ca; Alyson Kelvin [AKelvin@dal.ca]; darwyn.kobasa@canada.ca; Jason Kindrachuk [Jason.Kindrachuk@umanitoba.ca]; Gary Kobinger [Gary.Kobinger@crchudequebec.ulaval.ca]; Darryl Falzarano [darryl.falzarano@usask.ca]; Volker.gerdt@usask.ca; Hodgson, Paul [paul.hodgson@usask.ca]; shanchao@wh.iov.cn; 秦川 [qinchuan@pumc.edu.cn]; (b)(6) [redacted]@hotmail.com; Marco.Cavaleri@ema.europa.eu; LESELLIER Sandrine [sandrine.lesellier@anses.fr]; romain.volmer@envt.fr; Roger Le [roger.le-grand@cea.fr]; Pauline Maisonnasse [pauline.maisonnasse@cea.fr]; mariette.ducatez@envt.fr; christiane.gerke@pasteur.fr; nadia.khelef@pasteur.fr; Cesar Munoz-Fontela [munoz-fontela@bnitm.de]; Estefania Bni [estefania.rodriquez@bnitm.de]; Martin Beer [Martin.Beer@fli.de]; Mettenleiter, Thomas C. [ThomasC.Mettenleiter@fli.de]; Asisa.Volz@tiho-hannover.de; CarlosAlberto.Guzman@helmholtz-hzi.de; sutter@micro.vetmed.uni-muenchen.de; kupke@staff.uni-marburg.de; Kerscher, Bernhard [Bernhard.Kerscher@pei.de]; Barbara.Schnierle@pei.de; Carolyn Clark [carolyn.clark@cepi.net]; William Dowling [william.dowling@cepi.net]; Amy C. Shurtleff [amy.c.shurtleff@cepi.net]; Chi Van Dang [cdang@lcr.org]; Pierre Gsell [gsellp@who.int]; HENAO RESTREPO, Ana Maria [henaorestrepa@who.int]; KNEZEVIC, Ivana [knezevici@who.int]; moorthyv@who.int; preziosim@who.int; RIVEROS BALTA, Alina Ximena [lauriex@who.int]; swaminathans@who.int; woodd@who.int; jfwchan [jfwchan@hku.hk]; hlchen@hku.hk; anna@thsti.res.in; tomeri@iibr.gov.il; Nir Paran [nirp@iibr.gov.il]; mito@ciea.or.jp; tyamamoto@ciea.or.jp; nnagata@niid.go.jp; tksuzuki@nih.go.jp; (b)(6) [redacted]@yahoo.com; s.a.arakelov@spbniivs.ru; i.v.krashnikov@spbniivs.ru; y.m.vasiliev@spbniivs.ru; danielle.anderson@duke-nus.edu.sg; sekim@kricr.re.kr; seungtaek.kim@ip-korea.org; mksong@ivi.int; Mariano Esteban Rodriguez [mesteban@cnb.csic.es]; JUAN FRANCISCO GARCIA ARRIAZA [jfgarcia@cnb.csic.es]; Luis Enjuanes [l.enjuanes@cnb.csic.es]; Quim Segales [joaquim.segales@irta.cat]; Vergara, Julia [julia.vergara@irta.cat]; Ali.Mirazimi@folkhalsomyndigheten.se; Paul.Lambert@unige.ch; (b)(6) [redacted]@gmail.com; suchinda.m@chula.ac.th; (b)(6) [redacted]@gmail.com; langermans@bprc.nl; B. Rockx [b.rockx@erasmusmc.nl]; B. Haagmans [b.haagmans@erasmusmc.nl]; jorgen.de.jonge@rivm.nl; Koert Stittelaar [stittelaar@viroclinics.com]; Poel, Wim van der [wim.vanderpoel@wur.nl]; Gerhards, Nora [nora.gerhards@wur.nl]; Kortekaas, Jeroen [jeroen.kortekaas@wur.nl]; Nadia Oreshkova [nadia.oreshkova@wur.nl]; REIRELAND@mail.dstl.gov.uk; MSLEVER@dstl.gov.uk; MNELSON@mail.dstl.gov.uk; JLPRIOR@dstl.gov.uk; muhammad.munir@lancaster.ac.uk; Giada.Mattiuzzo@nibsc.org; Mark Page [Mark.Page@nibsc.org]; Nicola.Rose@nibsc.org; Neil Berry [Neil.Berry@nibsc.org]; (b)(6) [redacted]@gmail.com; Miles Carroll [Miles.Carroll@phe.gov.uk]; Simon Funnell [Simon.Funnell@phe.gov.uk]; Yper Hall [Yper.Hall@phe.gov.uk]; Ann.Rawkins@phe.gov.uk; Javier Salguero [Javier.Salguero@phe.gov.uk]; Sally.Sharpe@phe.gov.uk; Julia.Tree@phe.gov.uk; fgrey@exseed.ed.ac.uk; J.P.Stewart@liverpool.ac.uk; Matthew.Reed.mil@afirms.org; Luis.Lugo.mil@afirms.org; Donis, Ruben (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dea126c25cab404db922973cd7ccb459-HHS-Ruben.D]; Erlandson, Karl (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=680b325b1a6e48c1b23db0e7831cf1dd-HHS-Karl.Er]; Jayashankar, Lakshmi (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b140bac304f645cb951ea02cb93cc5a5-HHS-Lakshmi]; Little, James (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9ec1566776634a01940fae4f8976f25c-HHS-James.L]; Sabourin, Carol L (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4f2324384f36463ca3cda2146829ff48-HHS-Carol.S]; Treanor, John (OS) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=043d9cf65ad94fa49d37b1522637a0af-HHS-John.Tr]; sivkog@battelle.org; Dr. Mark Lewis [mlewis@bioqual.com]; Monalisa Chatterji [MONALISA.CHATTERJI@gatesfoundation.org]; Jacqueline.Kirchner@gatesfoundation.org; Harry.Kleanthous@gatesfoundation.org; Karen.Makar@gatesfoundation.org; David.Vaughn@gatesfoundation.org; Griffiths, Anthony [ahgriff@bu.edu]; Thornburg, Natalie J (CDC) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d950f584de8b4ddba2cee7e6bc9a8d9c-HHS-nax3-cd]; (b)(6) [redacted]@gmail.com; mto@umn.edu; Angela Bosco-Lauth [mopargal@rams.colostate.edu]; Angela Rasmussen [alr2105@cumc.columbia.edu]; (b)(6) [redacted]@comcast.net; Duprex, Paul [pduprex@pitt.edu]; Flynn, Joanne L [joanne@pitt.edu]; White, Alexander G [agw13@pitt.edu]; renee.wegrzyn@darpa.mil; john.c.trefry.civ@mail.mil; Amelia Karlsson [amelia.karlsson@duke.edu]; Golding, Hana

[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=0619807f66f6406d9ece442207c82c95-goldingh]; MacGill, Tracy
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=af70ffa710334d5c972ef0f87f099f79-Tracy.Macgi]; Wang, Tony
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=17daf80bb07e4c57a851dcb4b1b245d1-Tony.Wang]; Krause, Philip
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=00c6330fea0042fdb5571c3fdef792ed-krause]; Levis, Robin
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d09daa7be5da44d983b8436c0ecf01b5-levis]; Dan Barouch
[dbarouch@bidmc.harvard.edu]; Elizabeth Sulkowski [(b)(6)]@gmail.com];
luk_vandenbergh@meel.harvard.edu; Krammer, Florian [florian.krammer@mssm.edu]; terry.k.besch.ctr@mail.mil;
Juergen Richt [jricht@vet.k-state.edu]; erica@lji.org; drevelli@lovelacebiomedical.org; Randy Albrecht
[randy.albrecht@mssm.edu]; Adolfo Garcia-Sastre [Adolfo.Garcia-Sastre@mssm.edu]; Peter Palese
[peter.palese@mssm.edu]; Michael Schotsaert [michael.schotsaert@mssm.edu]; golinger@mriglobal.org; Florence,
Clint C (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=9642ed58fd1448b78a415dcd78032f54-HHS-clint.f]; Lane, Mary C (NIH)
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=c172cd7ed3bf49efba26cd28a43ffa7c-HHS-mary.la]; Pickett, Thames E (NIH)
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=3534f82118194d95b4b1271fa0441590-HHS-pickett]; Stemmy, Erik J (NIH)
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d3401b6d3c82416696e0cdcf8228d829-HHS-erik.st]; Crozier, Ian (NIH)
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=8730a536d2c64480b554c36ac8fc2998-HHS-ian.cro]; Hensley, Lisa E (NIH)
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=51c50958b38c47dabf373f6008a0df16-HHS-lisa.he]; Holbrook, Michael R
(NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=ab6ac5eb46f1450f8bab160b960169e-HHS-michael]; Schmaljohn, Connie S
(NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=8ba6458b80904995986f4a7257137cc5-HHS-connie.]; De Wit, Emmie (NIH)
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=0995c7cc65ea4f0ba5e81bfc8b73e271-HHS-Emmie.d]; Feldmann, Heinrich U
(NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=da7b7c2687724d86973164c2ffdaa63a-HHS-feldman]; Munster, Vincent J
(NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=ac6fbfee4f524312982918e77a2c5f7c-HHS-vincent];
barney.graham@nih.gov; Dang, Que T (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=c23e124a70ad48fb933ea8e6a0a042f6-HHS-que.dan]; Hild, Sheri A (NIH)
[/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=03881844c43c4bcb9655237e8665eeaa-HHS-sheri.h]; fcassels@path.org;
Spergel, Jonathan [SPERGEL@email.chop.edu]; Padmini Salgame [salgampa@njms.rutgers.edu];
fkoide@southernresearch.org; hwan.kim@stonybrook.edu; Ricardo Carrion, Jr. [rcarrion@txbiomed.org]; Lee-
Parritz, David [david.lee-parritz@tufts.edu]; Chad Roy [croy@tulane.edu]; cjmillier@ucdavis.edu; Ralph Baric
[rbaric@email.unc.edu]; Lisa E Gralinski [lgralins@email.unc.edu]; [(b)(6)]@gmail.com; woodd@who.int,
jfwchan <jfwchan@hku.hk>, hlchen@hku.hk, anna@thsti.res.in, nnagata@niid.go.jp, tksuzuki@nih.go.jp,
[(b)(6)]@yahoo.com, y.m.vasiliev@spbniiivs.ru, s.a.arakelov@spbniiivs.ru, i.v.krasilnikov@spbniiivs.ru,
danielle.anderson@duke-nus.edu.sg, sekim@krikt.re.kr, seungtaek.kim@ip-korea.org, mksong@ivi.int, Mariano
Esteban Rodriguez <mesteban@cnb.csic.es>, JUAN FRANCISCO GARCIA ARRIAZA <jfgarcia@cnb.csic.es>, Luis
Enjuanes <l.enjuanes@cnb.csic.es>, Quim Segales <joaquim.segales@irta.cat>, Vergara Julia
[dmisiak@bsd.uchicago.edu]; dsreed@cvr.pitt.edu; Cartner, Samuel Corbin [scartner@uab.edu]; Erik Dohm
[edohm@uab.edu]; kevinharrod@uabmc.edu; troyrandall@uabmc.edu; paul-mccray@uiowa.edu; Stanley Perlman
[stanley-perlman@uiowa.edu]; Matthew Frieman [MFrieman@som.umaryland.edu]; thomasf@primate.wisc.edu;
DAVID H O'CONNOR [dhoconno@wisc.edu]; christian.c.hofer@mail.mil; jay.w.hooper.civ@mail.mil;
grace.m.lidl@mail.mil; aysegul.nalca.civ@mail.mil; margaret.l.pitt.civ@mail.mil; Trevor Brasel
[trbrasel@UTMB.EDU]; abukreye@utmb.edu; mmeitzen@utmb.edu; Chien-Te Tseng [sktseng@UTMB.EDU];
Martha.Alexander-Miller@wakehealth.edu; Kayvon Modjarrad [kmodjarrad@eidresearch.org]; Diamond, Michael
[mdiamond@wustl.edu]; dbolton@hivresearch.org; mvaccari@tulane.edu

CC: Simon Funnell [Simon.Funnell@phe.gov.uk]; William Dowling [william.dowling@cepi.net]; Pierre Gsell [gsellp@who.int]; RIVEROS BALTA, Alina Ximena [lauriex@who.int]; HENAO RESTREPO, Ana Maria [henaorestrepoa@who.int]
Subject: WHO COVID-19 Animal Models Call-Sep 27

Dear colleagues,

Please find below the agenda for this week's WHO Animal Models group call this Thursday 3rd at 3PM CET (Geneva).

This week, we will also initiate the first of a series of panel sessions which we hope will serve to spark some discussions on key research questions of relevance for COVID-19 preclinical studies in animal models. The agenda will be as follows

1- Presentation by Dr. Monica Vaccari (Tulane)

2- Panel session

Proposed question: Should the challenge doses, challenge methods and challenge stocks be standardized for COVID-19 animal model studies?

Moderator: Simon Funnell

Panelists:

Adolfo García-Sastre (Mount Sinai)

Phil Krause (FDA)

Dan Barouch (Harvard)

Clint Florence (NIH)

Best regards to all,

César, Simon and Bill

Pierre GSELL invites you to join this Webex meeting.

Meeting number (access code): (b)(6)

Meeting password: (b)(6)

Thursday, September 3, 2020

3:00 pm | (UTC+02:00) Brussels, Copenhagen, Madrid, Paris | 1 hr 30 mins

Join meeting

Tap to join from a mobile device (attendees only)

+41445750282, (b)(6) ## SWITZERLAND Toll

+1-415-655-0003, (b)(6) ## US Toll

Join by phone

41445750282 SWITZERLAND Toll

+1-415-655-0003 US Toll

Global call-in numbers

Join from a video system or application

Dial (b)(6)@who.webex.com

You can also dial 173.243.2.68 and enter your meeting number.

Join using Microsoft Lync or Microsoft Skype for Business

Dial (b)(6).who@lync.webex.com

From: vinu arumugham [(b)(6)]@aol.com]
Sent: 9/30/2020 2:40:04 AM
To: Golding, Hana [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0619807f66f6406d9ece442207c82c95-goldingh]; Khurana, Surender [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d6215b7e342d4622be59fa3d58501a6f-Khurana]; sli49@emory.edu; elizabeth.deatrick@niaid.nih.gov; pwilson1@medicine.bsd.uchicago.edu; agewirtz@gsu.edu; megan.hahn@fda.hhs.gov; goldmanb@stanford.edu; mario.cortese@stanford.edu; nroupha@emory.edu; alan.embry@nih.gov; alex@lji.org; neuron@cell.com; jlandsberg@cell.com; agoldstein@cell.com; mzirlinger@cell.com; tdoobie@cell.com; mfurman@cell.com; ckonen@cell.com; eniederst@cell.com; uschridde@cell.com; jshaw@cell.com; eporro@cell.com; emarcus@cell.com; richard.hatchett@cepi.net; fg17882@bristol.ac.uk; ripleyp.ballou@gskbio.com; nicole.lurie@cepi.net; jlg251@georgetown.edu; tom.monath@crozetbiopharma.com; aabimiku@ihv.umaryland.edu; abarrett@utmb.edu; Ananda.Bandyopadhyay@gatesfoundation.org; cbrechot@usf.edu; chappi@hsph.harvard.edu; Connie.s.schmaljohn.civ@mail.mil; Damon, Inger K (CDC) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=42b35bd733a34c66a5698f43f7026e88-HHS-iad7-cd]; jamesrobinson@uchicago.edu; Jean.Lang@sanofi-pasteur.com; john.k.billington@gsk.com; kenji.shibuya@kcl.ac.uk; Krause, Philip [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=00c6330fea0042fdb5571c3fdef792ed-krause]; mlevine@som.umaryland.edu; moorthyv@who.int; Bryant, Paula R (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eb42f9318014bbb8c14d39ef311d8f9-HHS-paula.b]; tkariuki@africaonline.co.ke; yves.levy@aphp.fr; faddo@wisc.edu; bradford.barham@wisc.edu; lebautista@wisc.edu; lmberger@wisc.edu; wrbuckin@wisc.edu; meburns@wisc.edu; carlson@ssc.wisc.edu; jmcollins@wisc.edu; jaconwell@wisc.edu; nbarnes2@wisc.edu; kcurtis@ssc.wisc.edu; mcurtis3@wisc.edu; jeason2@wisc.edu; ehrental@wisc.edu; felwert@ssc.wisc.edu; cengelmann@wisc.edu; mengelman@ssc.wisc.edu; jason.fletcher@wisc.edu; cfu@ssc.wisc.edu; fujimura@ssc.wisc.edu; tgerber@ssc.wisc.edu; cde@ssc.wisc.edu; grantm@ssc.wisc.edu; jan.greenberg@wisc.edu; jmgregory@ssc.wisc.edu; egrotsky@ssc.wisc.edu; sarah.halpernmeekin@wisc.edu; jenny.a.higgins@wisc.edu; lpjacobs@wisc.edu; fjones4@wisc.edu; hyunseung@stat.wisc.edu; dkaplan@education.wisc.edu; jkennan@ssc.wisc.edu; ajk@medicine.wisc.edu; mlight@ssc.wisc.edu; logan@ssc.wisc.edu; kmagnuson@wisc.edu; marsha.mailick@wisc.edu; kmalecki@wisc.edu; mmassoglia@ssc.wisc.edu; drmeyer1@wisc.edu; cmommaerts@wisc.edu; amukherjee@wisc.edu; jmullahy@wisc.edu; jnobles@ssc.wisc.edu; robrien@lafollette.wisc.edu; palloni@wisc.edu; patz@wisc.edu; ppeppard@wisc.edu; jraymo@ssc.wisc.edu; ferey@wisc.edu; sarobert@wisc.edu; schaeffer@ssc.wisc.edu; lschechter@wisc.edu; aschneider4@wisc.edu; cschwartz@ssc.wisc.edu; aseshadr@ssc.wisc.edu; smeeding@lafollette.wisc.edu; econjeff@ssc.wisc.edu; psteiner@wisc.edu; ctaber@ssc.wisc.edu; tjernstroem@wisc.edu; walker@ssc.wisc.edu; wallace@lafollette.wisc.edu; tbwalsh@wisc.edu; yang.wang@lafollette.wisc.edu; mjwiswall@wisc.edu; wolfe@lafollette.wisc.edu; ysxiong2@wisc.edu; jzhu@stat.wisc.edu; ashivani@seas.upenn.edu; rbeck@jaeb.org; [(b)(6)]@gmail.com; t1dstats@jaeb.org; willi@email.chop.edu; weinstor@upstate.edu; paul.wadwa@cuanschutz.edu; jennifer.sherr@yale.edu; rmonzavi@chla.usc.edu; Laurel.Messer@cuanschutz.edu; sarah.corathers@cchmc.org; Amy.Criego@ParkNicollet.com; maclements@cmh.edu; inquires@sda.gov.cn; yerw@bjmu.edu.cn; yxy@xjtu.edu.cn; cfetpyhj@vip.sina.com; caodesheng@chinadaily.com.cn; yanwl@fudan.edu.cn; yiwang@shmu.edu.cn; zhangyp@chinacdc.cn; gisou.vandergoot@epfl.ch; nicola.harris@epfl.ch; andrea.ablasser@epfl.ch; patrick.aebischer@epfl.ch; johan.auwerx@epfl.ch; olaf.blanke@epfl.ch; melanie.blokesch@epfl.ch; cathrin.briskien@epfl.ch; philipp.bucher@epfl.ch; stewart.cole@epfl.ch; daniel.constam@epfl.ch; gregoire.courtine@epfl.ch; matteo.dalperaro@epfl.ch; paolo.delosrios@epfl.ch; michele.depalma@epfl.ch; bart.deplancke@epfl.ch; denis.duboule@epfl.ch; wulfram.gerstner@epfl.ch; pierre.gonczy@epfl.ch; johannes.graeff@epfl.ch; douglas.hanahan@epfl.ch; oliver.hantschel@epfl.ch; vassily.hatzimanikatis@epfl.ch; michael.herzog@epfl.ch; kathryn.hess@epfl.ch; joerg.huelsken@epfl.ch; friedhelm.hummel@epfl.ch; hilal.lashuel@epfl.ch; theo.lasser@epfl.ch; bruno.lemaitre@epfl.ch; joachim.lingner@epfl.ch; matthias.lutolf@epfl.ch; pierre.magistretti@epfl.ch; suliana.manley@epfl.ch; henry.markram@epfl.ch; brian.mccabe@epfl.ch; john.mckinney@epfl.ch; etienne.meylan@epfl.ch; felix.naef@epfl.ch; olaia.naveiras@epfl.ch; andrew.oates@epfl.ch; elisa.oricchio@epfl.ch; alexandre.persat@epfl.ch; carl.petersen@epfl.ch; freddy.radtke@epfl.ch; pavan.ramdyia@epfl.ch; marcel.salathe@epfl.ch; carmen.sandi@epfl.ch; ralf.schneggenburger@epfl.ch; kristina.schoonjans@epfl.ch; viesturs.simanis@epfl.ch; david.suter@epfl.ch; didier.trono@epfl.ch; nicolas.mermod@unil.ch; awagnon@cmanet.org; accma@accma.org; jgreaves@accma.org; jjackovic@accma.org; grogers@accma.org; ndraper@accma.org; mlum@accma.org;

hdncms@sbcglobal.net; (b)(6)@gmail.com; sbcms@sbmed.org; nbutler@fmms.org; Kamal.Gadalla@ed.ac.uk; ralph.hector@ed.ac.uk; S.R.Thomson@ed.ac.uk; Paul.Ross@ed.ac.uk; stephanie.mearns@ed.ac.uk; Marie.Bowers@ed.ac.uk; zoe.sawitzki@ed.ac.uk; Sarah.Giachetti@ed.ac.uk; s1316609@sms.ed.ac.uk; cochrane@umcutrecht.nl; editorial-unit@cochrane.org; admin@cochrane.org; CEU Admin [ceu@cochrane.org]; mwilson@cochrane.org; martin.burton@cochrane.nhs.uk; c.farquhar@auckland.ac.nz; j.e.clarkson@dundee.ac.uk; gerald.gartlehner@donau-uni.ac.at; pcg@scientificfreedom.dk; marguerite.a.koster@kp.org; (b)(6)@gmail.com; meerpohl@cochrane.de; santesna@mcmaster.ca; dimitrinka.nikolova@ctu.dk; snezana.djurisic@ctu.dk; (b)(6)@gmail.com; (b)(6)@gmail.com; (b)(6)@gmail.com; vbongfigli@cochrane.org; david@davidhammerstein.org; mburton@cochrane.org; mkoster@cochrane.org; Chris Del Mar [cdelmar@bond.edu.au]; Paul Glasziou [pglaszio@bond.edu.au]; RayMoynihan@bond.edu.au; peter.collignon@act.gov.au; Karla Soares-Weiser [ksoares-weiser@cochrane.org]; Hilary Simmonds [HSimmonds@cochrane.org]; Toby Lasserson [TLasserson@cochrane.org]; Christian Gluud [christian.gluud@ctu.dk]; Christopher Exley [c.exley@keele.ac.uk]; cdipietrantoni@asl.it; (b)(6)@googlemail.com; sdavies@bmj.com; nigel.hawkes1@btinternet.com; jclarkson@cochrane.org; ncullum@cochrane.org; gfaba@cochrane.org; thowe@cochrane.org; trish.greenhalgh@phc.ox.ac.uk; peter.christian.goetzsche@regionh.dk; governingboardsecretary@cochrane.org; David Tovey [dtovey@cochrane.org]; sara.krauss@ctu.dk; cgluud@ctu.dk; (b)(6)@gmail.com

Subject: Flu shot makes COVID-19 worse, confirmed by Cleveland Clinic; Make Famotidine/Cetirizine SOC for COVID-19; COVID-19 vaccines are unsafe

Mechanistic evidence (prediction)

Proteins that contaminate influenza vaccines have high homology to SARS-CoV-2 proteins thus increasing risk of severe COVID-19 disease and mortality

<https://doi.org/10.5281/zenodo.3996984>

Epidemiological evidence (confirmation)

Flu shot increases risk of COVID-19 Hospitalization **240%**, ICU admission **204%**, Hospital mortality **232%**.

Safety of Influenza Vaccine during COVID-19

<https://doi.org/10.1017/cts.2020.543>

"Among individuals with a positive SARS-CoV-2 test, patients previously vaccinated for influenza in 2019 were more likely to be hospitalized. Once hospitalized, they were more likely to be admitted to the ICU and die during hospitalization."

From Table 1:

| | Never Vaccinated (N=1,125) | Vaccinated in 2019 (N=309) |
|-----------------------------|----------------------------|----------------------------|
| Hospitalization - no.(%) | 192 (17.1) | 127 (41.1) |
| ICU Admission - no.(%) | 77 (6.8) | 43 (13.9) |
| Hospital Mortality - no.(%) | 32 (2.8) | 20 (6.5) |

My comment posted in the Annals of Internal Medicine

The iatrogenic cascade of illnesses

https://www.acpjournals.org/doi/full/10.7326/M20-2470#_comments

COVID-19 vaccines are **fundamentally flawed and unsafe**. Details below:

The CanSino Biologics vaccine:

<https://publons.com/r/9024531/>

The Oxford vaccine:

<https://publons.com/r/9015091/>

The Moderna mRNA vaccine:

<https://publons.com/r/9025990/>

The Pfizer/BioNTech vaccine:

<https://publons.com/r/9026177/>

The Novavax vaccine

<https://publons.com/review/9108287/>

Prof. Kounis' team and I, describe the common immunological mechanisms involved in cardiac injury in COVID-19, severe dengue infection and allergic reactions/anaphylaxis (Kounis syndrome). The medications for prevention/treatment include famotidine/cetirizine.

The passepartout wayfares of Covid-19, Cytokine storm and Kounis syndrome

<https://doi.org/10.5281/zenodo.3977923>

Dual-Histamine Blockade with Cetirizine - Famotidine Reduces Pulmonary Symptoms in COVID-19 Patients

<https://www.medrxiv.org/content/10.1101/2020.06.30.20137752v1>

I predicted in **JANUARY 2020** (email below) that mast cell stabilizers and antihistamines can help in COVID-19. I notified health authorities and thousands of doctors/researchers, worldwide. Hundreds of thousands of lives could have been saved.

The key is to understand that COVID-19 severity is a result of an allergic reaction to the virus, a "slow rolling anaphylaxis". WE HAVE PROVEN TREATMENTS FOR ANAPHYLAXIS. NO CLINICAL TRIALS NEEDED.

The diagnosis and management of anaphylaxis: An updated practice parameter

[https://www.jacionline.org/article/S0091-6749\(05\)00115-6/fulltext](https://www.jacionline.org/article/S0091-6749(05)00115-6/fulltext)

"These protocols have recommended the administration of H1 and H2 antagonists, ??-agonists, antileukotrienes, and corticosteroids."

Cetirizine is an histamine H1 blocker or antagonist. Famotidine is an histamine H2 blocker or antagonist.

These safe, OTC drugs above can be used immediately upon COVID-19 symptoms (or even a low dose if exposure is suspected). Mast cell stabilizers, ??-agonists, antileukotrienes, and corticosteroids can be prescribed as standard of care. Hundreds of thousands of lives can be saved.

As I wrote in my comment posted in the Annals of Internal Medicine:

Please see comments section:

<https://annals.org/aim/fullarticle/2764199/use-hydroxychloroquine-chloroquine-during-covid-19-pandemic-what-every-clinician>

Understanding mechanisms is better than demanding clinical trials in the middle of a pandemic

More details:

Immunological mechanisms explaining the role of IgE, mast cells, histamine, elevating ferritin, IL-6, D-dimer, VEGF levels in COVID-19 and dengue, potential treatments such as mast cell stabilizers, antihistamines, Vitamin C, hydroxychloroquine, ivermectin and azithromycin

<https://doi.org/10.5281/zenodo.3748303>

COVID-19: Famotidine, Histamine, Mast Cells, and Mechanisms

<https://www.researchsquare.com/article/rs-30934/v2>

Repositioning Chromones for Early Anti-inflammatory Treatment of COVID-19

<https://www.frontiersin.org/articles/10.3389/fphar.2020.00854/full>

Mast cells contribute to coronavirus-induced inflammation: new anti-inflammatory strategy??

<https://pubmed.ncbi.nlm.nih.gov/32013309/>

Thanks,
Vinu

----- Forwarded Message -----

Subject: Wuhan 2019-nCoV treatment; Vaccines induce autoimmunity: Epitope database evidence; Ebola vaccine will cause rice allergy epidemic

Date: Fri, 24 Jan 2020 17:42:02 -0800

From: vinu arumugham: (b)(6)@yahoo.com>

To: jay.slater@fda.hhs.gov <jay.slater@fda.hhs.gov>, jane.woo@fda.hhs.gov <jane.woo@fda.hhs.gov>, maureen.hess@fda.hhs.gov <maureen.hess@fda.hhs.gov>, Richard.Forshee@fda.hhs.gov <Richard.Forshee@fda.hhs.gov>, Mark.Walderhaug@fda.hhs.gov <Mark.Walderhaug@fda.hhs.gov>, CBER OCOD Consumer Account <cberocod@fda.hhs.gov>, Destefano, Frank (CDC/OID/NCEZID) <fxd1@cdc.gov>, isq8@cdc.gov <isq8@cdc.gov>, nar5@cdc.gov <nar5@cdc.gov>, hjn0@cdc.gov <hjn0@cdc.gov>, Secretary@HHS.gov <Secretary@HHS.gov>, CommissionerFDA@fda.hhs.gov <CommissionerFDA@fda.hhs.gov>, olx1@cdc.gov <olx1@cdc.gov>, directorsincoming@cdc.gov <directorsincoming@cdc.gov>, francis.collins@nih.gov <francis.collins@nih.gov>, mrolfes1@cdc.gov <mrolfes1@cdc.gov>.

xzd2@cdc.gov <xzd2@cdc.gov>, acy9@cdc.gov <acy9@cdc.gov>, dbj0@cdc.gov <dbj0@cdc.gov>, jmk9@cdc.gov <jmk9@cdc.gov>, tft9@cdc.gov <tft9@cdc.gov>, gll9@cdc.gov <gll9@cdc.gov>, sharplessne@nih.hhs.gov <sharplessne@nih.hhs.gov>, tnc4@cdc.gov <tnc4@cdc.gov>, kok4@cdc.gov <kok4@cdc.gov>, rxl3@cdc.gov <rxl3@cdc.gov>, gbq7@cdc.gov <gbq7@cdc.gov>, fwf7@cdc.gov <fwf7@cdc.gov>, megan.mcseveney@fda.hhs.gov <megan.mcseveney@fda.hhs.gov>, afauci@niaid.nih.gov <afauci@niaid.nih.gov>, Emelia.Benjamin@bmc.org <Emelia.Benjamin@bmc.org>, mjessup@leducq.com <mjessup@leducq.com>, tavori@ohsu.edu <tavori@ohsu.edu>, jessica.lilley@vanderbilt.edu <jessica.lilley@vanderbilt.edu>, web@beasleyallen.com <web@beasleyallen.com>, dr.flegg@bfwhospitals.nhs.uk <dr.flegg@bfwhospitals.nhs.uk>

IgE mediated sensitization to peptides that have homology to 2019-nCoV peptides may contribute to disease severity. In that case, antihistamines and other allergy treatments such as mast cell stabilizers may help reduce infection severity.

A BLASTP analysis of 2019-nCoV proteome against common vaccine antigens was performed. Preliminary results suggest that IgE mediated sensitization to common vaccine antigens can result in cross reactive immune responses to 2019-nCoV.

Please see details of the mechanisms here:

Influenza vaccines and dengue-like disease

<https://www.bmj.com/content/360/bmj.k1378/rr-15>

<https://www.quora.com/Why-was-the-flu-so-deadly-in-outbreaks-in-the-past-And-what-made-the-flu-become-less-deadly/answers/86456279>

"Scientists" at the global vaccine safety summit spill the beans: There is no science behind vaccine safety claims, it's a fairy tale.

The party is over folks.

<https://youtu.be/s2IujhTdCLE>

ERVEBO Ebola vaccine will create a rice allergy epidemic, add to numerous autoimmune diseases, cancer and make Ebola disease even more severe. Design for safety and vaccine safety regulation remain abject failures.

Incompetence or indifference?
<https://doi.org/10.5281/zenodo.3595020>

Analyzing 23000+ epitopes covering 82 autoimmune diseases in the Immune Epitope Database, 57% have only one and 78% have up to two amino acid residue differences compared to animal, fungal or plant peptides present in vaccines; an unmistakable signature of the role of vaccines in their etiologies

<https://doi.org/10.5281/zenodo.3603480>

Analyzing 23000+ epitopes covering 82 autoimmune diseases in the Immune Epitope Database, 57% have only one and 78% have up to two amino acid residue differences compared to animal, fungal or plant peptides present in vaccines; an unmistakable signature of the role of vaccines in their etiologies

Vinu Arumugham

Jan 2020

vinucubeacc@gmail.com

Lay summary

Proteins are a chain of amino acids. Proteins can have up to several hundred amino acids. Snippets of proteins (peptides), 7-15 amino acids in length are important in immunology. There are 20 types of amino acids. Each is assigned a letter (1 letter code).

Antibodies are proteins that can bind to peptides that have a specific amino acid sequence. Such a target peptide is known as an epitope.?? When an antibody binds to a peptide (which is part of a protein, which in turn may be part of a cell surface), it can trigger an immune attack on the cell. If the cell were a bacterium, the bacterium would be killed.

Humans (like all organisms) are made of numerous proteins (self proteins). So we have self-proteins, self-peptides and self-epitopes. In a healthy person, the body will not make antibodies that bind strongly to self-peptides (self-tolerance).

DNA is a chain of base-pairs. The DNA base-pair sequence determines the amino acid sequence in the protein produced. If there is a mutation that alters a single base-pair, the resulting protein will have a single amino acid that is altered. To prevent cancer, the immune system is capable of making antibodies against such altered peptides. Such antibodies can also weakly bind (cross react) to the unaltered normal peptide thus resulting in destruction of some healthy cells.

Say a normal protein has the following peptide (10 amino acids, each represented by its 1 letter code):

ALSTLVVNKI

Say DNA in a cell mutates due to a carcinogen exposure and it alters the protein thus resulting in this peptide with a single amino acid change:

ALSTLVVSKI

When the immune system makes antibodies targeted at ALSTLVVSKI (to attack the cell with the DNA mutation), the same antibodies can weakly bind to the normal ALSTLVVNKI peptide.

ALSTLVVNKI is an epitope associated with rheumatoid arthritis (RA).

So as a result of the immune system defending against cancer, the person can develop RA.

Now consider vaccines containing animal proteins. Animal proteins are very similar to human proteins, containing only occasional amino acid differences. An animal peptide could therefore have the ALSTLVVSKI sequence. Such a vaccine would fool the immune system into creating an anti-cancer immune response, creating antibodies targeted at ALSTLVVSKI. The result is vaccine induced RA.

Therefore one can predict that analyzing epitopes associated with autoimmune diseases, such single amino acid difference compared to animal peptides present in vaccines, would occur more frequently than can be expected merely by chance. The analysis confirms that this prediction is valid.

Abstract

The National Institute of Allergy and Infectious Diseases (NIAID) sponsors the Immune Epitope Data Base (IEDB). IEDB contains epitopes identified from the medical literature and organized by diseases and categories of diseases. All epitopes (23000+) associated with 82 autoimmune diseases in humans were analyzed.

The role of animal, plant, fungal proteins contained in vaccines in the etiology of autoimmune diseases have been described in humans and animals. BLASTP was used to analyze IEDB derived epitopes for sequence alignment to animal, plant, fungal (APF) proteins present in vaccines and biologics. Specifically, the search was performed against bovine, chicken, porcine, guinea pig, African green monkey, Chinese hamster, murine, peanut, soy, wheat, corn, sesame and *Saccharomyces cerevisiae* proteomes.

The results show that 57% of epitopes differed by exactly one amino acid residue from an APF peptide. 78% of the epitopes differed by up to two amino acid residues from an APF peptide. The rest of the epitopes were either identical or differed by more than two amino acid residues.

A majority of IEDB epitopes analyzed were 9-mer peptides. Comparing randomly selected 9-mer human peptides with APF proteomes, the probability of single amino acid residue difference (SAARD) outcomes was derived. This was used to estimate the probability that actual IEDB SAARD alignments to APF peptides were merely a chance outcome. The estimates show that the probability that the observed IEDB alignments to APF being merely a chance outcome are vanishingly small. So the results make it absolutely clear that APF proteins in vaccines cause all these autoimmune diseases.

Introduction

Vaccines contain thousands of residual animal, plant and fungal (APF) proteins from the manufacturing process (1-6)???. 293 chicken proteins were identified in the influenza vaccine (7)???, for example. Actin and vimentin proteins were detected in the Priorix Tetra vaccine (8)???. Immunization with homologous xenogeneic antigens resulting in autoimmune diseases has been known for at least 40 years (9)???. Vaccines that contain bovine proteins caused autoimmunity in dogs (10)???. We previously described the immunological mechanism involved in autoimmunity induction by immunization with homologous xenogeneic antigens (11)???

Cancer cells have minor differences when compared to healthy cells. Due to mutation of the DNA encoding the proteins, cancer cells can display altered proteins on their surface. Healthy cancer defense mechanisms include immune responses directed at such altered proteins. Therefore an immune response directed against cancer cells always carries a risk of cross reactive immune responses against healthy cells displaying the unaltered protein.

Therefore, cancer induced autoimmune responses are a consequence of normal, healthy immune system behavior.

Animal proteins have minor differences compared to human proteins. Peptides that are identical between humans and animals are unlikely to cause any problem due to strong self tolerance. However, peptides with one amino acid residue difference produce the strongest cross reactive immune responses (11)???. They are ideally suited to induce autoimmune diseases. Injecting animal proteins results in anti-cancer immune responses because the immune system perceives animal proteins as altered human proteins. Adjuvants in the vaccine boost this anti-cancer immune response. This artificial anti-cancer response directed at thousands of APF proteins in vaccines or biologics, therefore cross react and cause numerous autoimmune disorders.

For this reason, one can predict that single amino acid residue difference (SAARD) between autoimmune disease related epitopes in the IEDB and homologous APF peptides in vaccines, would occur at a higher probability than by mere chance. We perform a BLASTP analysis to verify.

Methods

Basic local alignment search tool for proteins (BLASTP) (12)???, Universal Protein Resource (UniProt)(13)??? and the Immune Epitope Database (IEDB) (14)??? were used for bioinformatics analysis.

Specifically, the BLASTP sequence alignment of IEDB peptides was performed against bovine, chick, porcine, guinea pig, African green monkey, Chinese hamster, murine, peanut, soy, wheat, corn, sesame and *Saccharomyces cerevisiae* proteomes. Vaccines and biologics contain residual proteins from all these organism due to media used to grow viruses or bacteria, recombinant cells/organisms used for protein expression or as excipients.

Results

57% of IEDB peptides have a SAARD and 78% have up to two amino acid differences compared to animal, fungal or plant peptides present in vaccines.

Discussion

Could this result be a chance occurrence?

A majority of IEDB epitopes analyzed were 9-mer peptides. Five thousand 9-mer peptides were chosen at random from the human proteome. BLASTP was run using these peptides to compare against each organism???s proteome or a subset. This provides us the probability that randomly selected human peptides have an alignment providing a SAARD compared to peptides from these organisms. These are listed in table 1 under ??? Random SAARD alignment???. Given this, we can compute the probability of the actual SAARD alignment to IEDB epitopes, occurring by chance. This is listed in table 1 under ???Estimated probability of actual SAARD outcome occurring just by chance???.

For a simple coin toss example, we would perform the calculation as follows:

Computing probability of say a 7 heads, 3 tails outcome of 10 trials of a fair coin:

$$\text{Probability} = (0.5^7) \times (0.5^3) \times 10! / (7! \times 3!)$$

Where:

0.5 is the probability of a head or tail outcome of a fair coin.

For an unfair coin, say probability of head outcome = 0.4 and tail outcome 0.6, we would have:

$$\text{Probability} = (0.4^7) \times (0.6^3) \times 10! / (7! \times 3!)$$

For the IEDB peptide probability analysis, the outcome is for 23192 trials (peptides).

The ???head outcome??? is the ???Random SAARD alignment ??? entries in table 1. The ???tail outcome??? probability is 1-???head outcome???

Sample calculation for Chinese Hamster:

$$\text{Probability} = ((889/5000)^{4574}) \times ((4111/5000)^{18618}) \times 23192! / (4574! \times 18618!)$$

$$\text{Probability} = 1.488\text{e-}15$$

Where: $889 \times 100 / 5000 = 17.8\%$ is the entry in Table 1 for Chinese Hamster. BLASTP analysis shows 889 SAARD out of 5000 peptides analyzed.

And, $4574 \times 100 / 23192 = 19.7\%$ is the IEDB entry in Table 1 for Chinese Hamster. BLASTP analysis shows 4574 SAARD out of 23192 peptides analyzed.

So the 1.488e-15 value is the probability that we will have exactly 4574 SAARD alignments out of 23192 peptides. The probability goes down for all values > 4574. Conservatively, applying the same probability as for 4574, to all values > 4574, we can calculate the probability of the chance occurrence of 4574 or greater number of SAARD alignments as $1.488\text{e-}15 \times 18618 = 27\text{e-}12$, entry in table.

The Gnome calculator was used to perform these calculations and the results were verified using the Qalculate! calculator and WolframAlpha (15)??? since spreadsheets are unable to perform these calculations.

Table 1

| Organism | Random SAARD alignment Number of Peptides(%) | Actual (IEDB) SAARD alignment Number of Peptides (%) | Estimated probability of actual SAARD outcome occurring just by chance | Remarks |
|---|--|--|--|--|
| African green monkey (<i>Chlorocebus aethiops</i>) | 26 (0.5) | 420 (1.8) | ~1.7e-96 | Probability of this outcome occurring just by chance is vanishingly small. So these animal proteins in vaccines, caused these diseases. |
| Cow (<i>Bos taurus</i>) | 936 (18.7) | 4385 (18.9) | ~1 | There are two possibilities. (1) This outcome occurred just by chance. (2) The assumption that all cow proteins are present in the vaccines in equal amount is not true. We know that cow???s milk, bovine gelatin, bovine serum albumin are used in vaccines. So these proteins and proteins present in tissues in the vicinity, are included in vaccines but other cow |

| Organism | Random SAARD alignment Number of Peptides(%) | Actual (IEDB) SAARD alignment Number of Peptides (%) | Estimated probability of actual SAARD outcome occurring just by chance | Remarks |
|--|--|--|--|--|
| | | | | proteins may not be present. This is the more likely explanation. Please see Cow???s milk entry below. |
| Cow???s Milk (<i>Bos taurus</i>) | 0 (0) | 12 (0.05) | 0 | Probability of this outcome occurring just by chance is 0. So these animal proteins in vaccines, caused these diseases. |
| Chinese Hamster (<i>Cricetulus griseus</i>) | 889 (17.8) | 4574 (19.7) | ~27e-12 | Probability of this outcome occurring just by chance is vanishingly small. So these animal proteins in vaccines, biologics caused these diseases. |
| Chicken (<i>Gallus gallus</i>) | 536 (10.7) | 3901 (16.8) | <1e-100 | Probability of this outcome occurring just by chance is vanishingly small. So these animal proteins in vaccines, caused these diseases. Unlike bovine, porcine and murine proteins, since chicken egg or embryo is used for vaccine manufacture, all chicken proteins can be present in vaccines. |
| Guinea Pig (<i>Cavia porcellus</i>) | 837 (16.7) | 4439 (19.1) | ~1e-18 | Probability of this outcome occurring just by chance is vanishingly small. So these animal proteins in vaccines, caused these diseases. |
| Mice (<i>Mus musculus</i>) | 940 (18.8) | 4467 (19.3) | ~1 | There are two possibilities. (1) This outcome occurred just by chance. (2) The assumption that all mice proteins are present in biologics in equal amount is not true. We know that mice myeloma cells are used in biologics. So these proteins and proteins present in tissues in the vicinity, are present in biologics but other mice proteins may not be present. This is the more likely explanation. |
| Maize (<i>Zea mays</i>) | 303 (6.1) | 1667 (7.2) | ~5e-9 | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |

| Organism | Random SAARD alignment Number of Peptides(%) | Actual (IEDB) SAARD alignment Number of Peptides (%) | Estimated probability of actual SAARD outcome occurring just by chance | Remarks |
|---|--|--|--|---|
| Peanut (<i>Arachis hypogaea</i>) | 223 (4.5) | 1697 (7.3) | $\sim 79e-81$ | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |
| Yeast (<i>Saccharomyces cerevisiae</i>) | 64 (1.3) | 828 (3.6) | $< 1e-100$ | Probability of this outcome occurring just by chance is vanishingly small. So these fungal proteins in vaccines, biologics caused these diseases. |
| Sesame (<i>Sesamum indicum</i>) | 155 (3.1) | 1398 (6.0) | $< 1e-100$ | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |
| Soy (<i>Glycine max</i>) | 215 (4.3) | 1548 (6.7) | $\sim 86e-59$ | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |
| Pig (<i>Sus scrofa</i>) | 963 (19.3) | 4407 (19.0) | ~ 1 | There are two possibilities. (1) This outcome occurred just by chance. (2) The assumption that all porcine proteins are present in the vaccines in equal amount is not true. We know that porcine gelatin is used in vaccines. So these proteins and proteins present in tissues in the vicinity are included in vaccines but other porcine proteins may not be present. This is the more likely explanation. |
| Wheat (<i>Triticum aestivum</i>) | 138 (2.8) | 977 (4.2) | $\sim 18e-33$ | Probability of this outcome occurring just by chance is vanishingly small. So these plant proteins in vaccines, caused these diseases. |

The calculations make it clear that the findings cannot be merely a chance outcome and that immunization against animal/plant/fungal antigens in the vaccines do cause these autoimmune diseases in the IEDB.

Conclusion

Vaccines containing animal, plant or fungal proteins are extremely dangerous and cause numerous autoimmune diseases and cancer (16)???. All non-target proteins in vaccines must be immediately removed using processes such as affinity chromatography (20)???

References

1. Kattan JD, Cox AL, Nowak-Wegrzyn A, Gimenez G, Bardina L, Sampson HA, et al. Allergic reactions to diphtheria, tetanus, and acellular pertussis vaccines among children with milk allergy. *J Allergy Clin Immunol*. 2011;Conference(var.pagings):AB238.
2. Arumugham V. Oxford Vaccine Group Vaccine Knowledge Project's Vaccine Ingredient and vaccine safety misinformation exposed [Internet]. 2019 [cited 2019 Dec 11]. Available from: <https://doi.org/10.5281/zenodo.3477854>
3. National Academies of Sciences and Medicine E. Finding a Path to Safety in Food Allergy: Assessment of the Global Burden, Causes, Prevention, Management, and Public Policy. Stallings VA, Oria MP, editors. Washington, DC: The National Academies Press; 2017.
4. Gardasil Package Insert [Internet]. Available from: <http://www.fda.gov/downloads/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM111263.pdf>
5. ENGERIX-B HIGHLIGHTS OF PRESCRIBING INFORMATION [Internet]. Available from: <https://www.fda.gov/media/79341/download>
6. Arumugham V, Trushin M V. Role of NMDA receptor autoimmunity induced by food protein containing vaccines, in the etiology of autism, type 1 diabetes, neuropsychiatric and neurodegenerative disorders [Internet]. *International Journal of Pharmaceutical Research*. 2019 [cited 2019 Apr 15]. p. 428??37. Available from: <https://doi.org/10.5281/zenodo.1463600>
7. Jacob L, Leib R, Ollila HM, Bonvalet M, Adams CM, Mignot E. Comparison of Pandemrix and Arepanrix, two pH1N1 AS03-adjuvanted vaccines differentially associated with narcolepsy development. *Brain Behav Immun*. 2015 Jul;47:44??57.
8. Corvelva. Vaccinegate: Study on the chemical composition profile of Priorix Tetra [Internet]. 2018 [cited 2019 Aug 24]. Available from: <https://drive.google.com/file/d/1cNtdBczAX1-xowPEDep1kZOjy84IypAB/view>
9. Arumugham V. Vaccination with bovine, chick, yeast antigens synthesizes cross-reactive antibodies targeting human acetylcholine receptor and MuSK protein to cause Myasthenia Gravis: Confirmed by natural experiment (VAERS data), bioinformatics, case reports, animal experiments and titer study [Internet]. 2019 [cited 2019 Sep 16]. Available from: <https://doi.org/10.5281/zenodo.3421558>
10. Hogenesch H, Azcona-Olivera J, Scott-Moncrieff C, Snyder PW, Glickman LT. Vaccine-induced autoimmunity in the dog. *Adv Vet Med*. 1999;41:733??47.
11. Arumugham V, Trushin M V. Cancer immunology, bioinformatics and chemokine evidence link vaccines contaminated with animal proteins to autoimmune disease: a detailed look at Crohn's disease and Vitiligo. *J Pharm Sci Res*. 2018;10(8):2106.
12. Altschul SF, Madden TL, Schaffer AA, Zhang J, Zhang Z, Miller W, et al. Gapped BLAST and PSI-BLAST: a new generation of protein database search programs. *Nucleic Acids Res*. 1997;25(17):3389??402.

13. UniProt: the universal protein knowledgebase. *Nucleic Acids Res.* 2017 Jan 4;45(D1):D158??69.
14. Vita R, Mahajan S, Overton JA, Dhanda SK, Martini S, Cantrell JR, et al. The Immune Epitope Database (IEDB): 2018 update. *Nucleic Acids Res. Oxford University Press*; 2019;47(D1):D339??43.
15. Wolfram|Alpha: Computational Intelligence [Internet]. [cited 2020 Jan 8]. Available from: <https://www.wolframalpha.com/>
16. Arumugham V. Vaccines and Biologics injury table based on mechanistic evidence ??? Mar 2019 [Internet]. 2019 [cited 2019 May 16]. Available from: <https://zenodo.org/record/2582635/files/viittoc0302http.pdf?download=1>
17. Arumugham V. As predicted, animal protein containing biologics induce de novo autoimmune disorders [Internet]. 2019 [cited 2019 Dec 29]. Available from: <https://doi.org/10.5281/zenodo.3483322>
18. Arumugham V. Expanding ASIA to GAVIDOTTIR???: GAMut of Vaccine Induced Damage emphasizing Off Target Immune Responses [Internet]. 2019 [cited 2019 Oct 23]. Available from: <https://doi.org/10.5281/zenodo.3478840>
19. Arumugham V. Role of anti-carbonic anhydrase 2 antibodies induced by vaccine antigens, in the etiology of acute myeloid leukemia and other malignancies [Internet]. 2019 [cited 2019 Nov 14]. Available from: <https://doi.org/10.5281/zenodo.3534442>
20. Zhao M, Vandersluis M, Stout J, Haupts U, Sanders M, Jacquemart R. Affinity chromatography for vaccines manufacturing: Finally ready for prime time? *Vaccine. Netherlands*; 2018 Apr;

From: CEPI SAC [CEPISAC@cepi.net]
Sent: 9/23/2020 5:22:01 AM
To: Barrett, Alan [abarrett@utmb.edu]; Alash'le Abimiku [aabimiku@ihv.umaryland.edu]; Allouèche, Ali [Ali.allouèche@takeda.com]; christian.brechot [christian.brechot@pasteur.fr]; cbrechot [cbrechot@usf.edu]; happic [happic@run.edu.ng]; Schmaljohn, Connie S (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ba6458b80904995986f4a7257137cc5-HHS-connie.]; Daniel Brasseur [(b)(6)]@gmail.com; mimi darko [(b)(6)]@yahoo.co.uk; dongxp238 [dongxp238@sina.com]; HRees@wrhi.ac.za; Damon, Inger K (CDC) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=42b35bd733a34c66a5698f43f7026e88-HHS-iad7-cd]; James Robinson [(b)(6)]@outlook.com; Jean Lang [Jean.Lang@sanofipasteur.com]; Van Hoof, Johan [JRDBE] [JVHOOF1@its.jnj.com]; John Edmunds [John.Edmunds@LSHTM.ac.uk]; Josie Golding [j.golding@wellcome.ac.uk]; kneuzil [kneuzil@som.umaryland.edu]; Jansen, Kathrin [kathrin.jansen@pfizer.com]; Shibuya, Kenji [kenji.shibuya@kcl.ac.uk]; Michel De Wilde [(b)(6)]@aol.com; Levine, Myron [Mlevine@som.umaryland.edu]; Bryant, Paula R (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eb42f9318014bbb8c14d39ef311d8f9-HHS-paula.b]; Penny Heaton [penny.heaton@gatesmri.org]; Peter.Smith@lshtm.ac.uk; Krause, Philip [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=00c6330fea0042fdb5571c3fdef792ed-krause]; Ralf Clemens [(b)(6)]@outlook.com; Stanley Plotkin [stanley.plotkin@vaxconsult.com]; Tom Kariuki [t.kariuki@aacsciences.ac.ke]; SATHIYAMOORTHY, Vaseeharan [moorthyv@who.int]; yves.levy [yves.levy@inserm.fr]
CC: Manisha Tirvassen [manisha.tirvassen@cepi.net]; Jodie Rogers [Jodie.rogers@cepi.net]
Subject: COVAX: 156 economies and counting to receive COVID-19 vaccines through the COVAX Facility

Dear SAC members,

I am delighted to announce that our work to ensure global equitable access to safe and effective COVID-19 vaccines is in motion, with 64 higher-income economies, including 29 countries as part of the 'Team Europe' agreement with the European Commission, joining the COVAX Facility.

This means that in less than four months since the creation of COVAX—our joint initiative with Gavi and the World Health Organization (WHO) to develop, manufacture and equitably deliver 2 billion doses of COVID-19 vaccine by the end of 2021 to end the acute phase of the pandemic—these self-financing countries now join 92 low- and middle-income economies to not only secure doses of vaccine for their own populations, but also the most vulnerable across the world. Together, these 156 economies represent 64% of the global population and additional higher-income economies are expected to sign Commitment Agreements in the coming days. A full list of countries who have now made binding agreements to the COVAX Facility is available [here](#).

These commitments enable countries to buy into a share of our diversified COVID-19 vaccine portfolio. Built on the principles of speed, scale and access, eight of our nine COVID-19 vaccine candidates in the portfolio have entered the clinic, with encouraging data from preclinical and early-stage trials. Our aim is to see at least three safe and effective vaccines through to licensure, with additional vaccines also likely to join the COVAX Facility.

Through pooling buying power, vital funding will now be available to provide volume guarantees across CEPI's COVID-19 vaccines so that at-risk manufacturing investments can be made, and doses can become available without delay, should a candidate vaccine be proven safe and effective in clinical testing. The allocation of vaccines, once licensed and approved, will be guided by [WHO's Allocation Framework](#), released Monday.

A time to reflect and next steps

It is a remarkable moment – not just for the progression of vaccine development and ensuring access to vital life-saving interventions simultaneously for high, middle, and low-income countries alike, but also in recognition of the fact that countries around the world have come together to turn the tide on vaccine nationalism and improve lives, societies, and economies for all.

Equitable access isn't just the right thing to do, it's in all our interests. Modelling data published last week found that if rich countries were to buy up the first 2 billion doses of vaccine, instead of making sure they are distributed in proportion to the global population, almost twice as many people could die from COVID-19. Given losses to the global economy of US \$500 billion every month in GDP, COVAX also holds a strong economic argument for its operation.

I would like to congratulate the fantastic CEPI Team and all of our partners, who have enabled us to reach this achievement. It is thanks to your passion and determination that we have together created this critical tool which is solid progress in bringing an end to this devastating situation.

We do, of course, have a colossal journey ahead of us and the ongoing work across our COVID-19 vaccine programmes, manufacturing support, enabling sciences efforts and operational functions is paramount to the success of this pioneering initiative. CEPI still urgently needs US \$700 - \$800m to advance our COVID-19 vaccine portfolio and develop a range of safe and effective vaccines. Moreover, further funding to the COVAX Advance Market Commitment (AMC) is vital for the procurement of COVID-19 vaccines to the 92 low- and middle-income economies who are part of COVAX. We must be pragmatic—setting realistic expectations and timelines—as we continue our forward-thinking and progressive nature to ensure that COVAX becomes a reality.

For further information relating to our announcement, please see [our joint press release](#). A press conference is was **held by WHO** to discuss the news, alongside providing further details on WHO's COVID-19 vaccine allocation framework. You can also find out more about COVAX [on our website](#).

Best regards,
Richard

PS: This notification to you SAC members has been delayed, and I am sorry about this. Hopefully you have seen the news through other channels.

Best wishes
Stig

STIG TOLLEFSEN
Technology Office Lead

CEPI New vaccines
for a safer world

(+47) 901 50 770
stig.tollefsen@cepi.net

Visiting address: Marcus Thranes gate 2, 0473 Oslo, Norway
Postal address: P.O. BOX 123, Torshov, 0412 Oslo, Norway

www.cepi.net



This e-mail and any attachments may contain confidential and/or privileged information.
If you are not the intended recipient or have received this e-mail in error, please notify the sender immediately and destroy this e-mail. Any unauthorized copying, disclosure or distribution of the material in this e-mail is strictly prohibited.

From: Cesar Munoz-Fontela [munoz-fontela@bnitm.de]
Sent: 9/17/2020 12:12:04 PM
To: Randy Albrecht [randy.albrecht@mssm.edu]; Dr. Hanne Andersen [handersen@bioqual.com]; Ralph Baric [rbaric@email.unc.edu]; Miles Carroll [miles.carroll@phe.gov.uk]; Cavaleri Marco [Marco.Cavaleri@ema.europa.eu]; 秦川 [qinchuan@pumc.edu.cn]; Crozier, Ian (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8730a536d2c64480b554c36ac8fc2998-HHS-ian.cro]; Kai Dallmeier [kai.dallmeier@kuleuven.be]; Leon de Waal [dewaal@viroclinics.com]; De Wit, Emmie (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0995c7cc65ea4f0ba5e81bfc8b73e271-HHS-Emmie.d]; Leen Delang [leen.delang@kuleuven.be]; Erik Dohm [edohm@uab.edu]; Duprex, Paul [pduprex@pitt.edu]; Darryl Falzarano [darryl.falzarano@usask.ca]; Finch, Courtney L (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=874d23c0b64b4c4b8a97a78a6d6804c5-HHS-courtne]; Matthew Frieman [MFrieman@som.umaryland.edu]; Graham, Barney S (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=973d6f4da1a94dad93621a6b52be9059-HHS-bgraham]; Lisa E Gralinski [lgralins@email.unc.edu]; guilfoyle@viroclinics.com; B. Haagmans [b.haagmans@erasmusmc.nl]; Geraldine Hamilton [geraldine.hamilton@emulatebio.com]; Hartman, Amy Lynn [hartman2@pitt.edu]; S. Herfst [s.herst@erasmusmc.nl]; Suzanne Kaptein [suzanne.kaptein@kuleuven.be]; Klimstra, William Brown [klimstra@pitt.edu]; KNEZEVIC, Ivana [knezevici@who.int]; Krause, Philip [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=00c6330fea0042fdb5571c3fdef792ed-krause]; Kuhn, Jens H (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8b8ad971e5e2465e95974d70823da1f-HHS-kuhnjen]; Roger Le [roger.le-grand@cea.fr]; Dr. Mark Lewis [mlewis@bioqual.com]; Wen-chun Liu [wen-chun.liu@mssm.edu]; Pauline Maisonnasse [pauline.maisonnasse@cea.fr]; McElroy, Anita Katherine [MCELROYA@pitt.edu]; Munster, Vincent J (NIH) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac6fbeee4f524312982918e77a2c5f7c-HHS-vincent]; Nadia Oreshkova [nadia.oreshkova@wur.nl]; Angela Rasmussen [alr2105@cumc.columbia.edu]; Joana Duarte Da Rocha Pereira [joana.rochapereira@kuleuven.be]; B. Rockx [b.rockx@erasmusmc.nl]; Estefania Bni [estefania.rodriquez@bnitm.de]; Thomas Rogers [trogers@scripps.edu]; Javier Salguero [javier.salguero@phe.gov.uk]; Michael Schotsaert [michael.schotsaert@mssm.edu]; Koert Stittelaar [stittelaar@viroclinics.com]; Hendrik Jan Thibaut [hendrikjan.thibaut@kuleuven.be]; Chien-Te Tseng [sktseng@UTMB.EDU]; Vergara, Julia [julia.vergara@irta.cat]; Martin Beer [Martin.Beer@fli.de]; Trevor Brasel [trbrasel@utmb.edu]; jfwchan [jfwchan@hku.hk]; Adolfo Garcia-Sastre [adolfo.garcia-sastre@mssm.edu]; Johan Neyts [johan.neyts@kuleuven.be]; Stanley Perlman [stanley-perlman@uiowa.edu]; Douglas Reed [dsreed@pitt.edu]; Juergen Richt [jricht@vet.k-state.edu]; Chad Roy [croy@tulane.edu]; Quim Segales [joaquim.segales@irta.cat]; Vasana Vasana [vasana.vasana@csiro.au]
CC: William Dowling [william.dowling@cepi.net]; Simon Funnell [Simon.Funnell@phe.gov.uk]; Pierre Gsell [gsellp@who.int]; RIVEROS BALTA, Alina Ximena [lauriex@who.int]; HENAO RESTREPO, Ana Maria [henaorestrepa@who.int]; Dan Barouch [dbarouch@bidmc.harvard.edu]
Subject: Pre-proofs Nature
Attachments: preproof_2020-06-10271C.docx

Dear all,

Attached is the pre-proof of our Nature paper. At this time I am going to ask you to please check carefully the names and affiliations. Please email me back ONLY if corrections are needed and BEFORE 3PM CET tomorrow. After that we will send the proofs back.

Thank you all in advance!

César

[AUTHOR: This is the subedited preproof of your paper, not including figures. Please correct it in line with the instructions and comments below.

- Check the title and the first paragraph with care, as they may have been re-written to aid accessibility for non-specialist readers. As part of our commitment to quality, the title and first paragraph will be read by another subeditor before the text is finalized, and further changes may be made.
- Check the numbering for affiliations with care.
- Check all author names and Acknowledgements carefully to ensure that they are correct.
- Check the email address of the corresponding author and the Competing Interests statement.
- Check that there has been no corruption of mathematical symbols.
- Ensure that the sex and other characteristics of organisms studied (age, species, strain) that may influence results are described.
- Ensure that accession numbers for any new sequences determined in this paper have been supplied.
- Ensure that, where practicable, all figures, tables and other discrete elements of Supplementary Information are referred to at least once in the paper at an appropriate place in the text or figure legends.
- Update any 'in the press', 'submitted' or 'preprint' references if possible, and note any queries embedded in the reference list.
- Where a reference citation could be misread as an index, it has been set as 'ref. ^{xx}'.
- Single-letter variables are set in italics (but not their subscripts unless these are also variables). We do not use italics for emphasis. Genetic material is set in italics, but gene products are set upright. Please check that italicization is correct throughout.
- We reserve 'significant' and its derivatives to mean statistically significant. Please reword any instance of 'significant', 'significance', etc. where this is not the intended meaning.

[AUTHOR: A proof will be produced on the basis of your corrections to this preproof. For this later stage of production we use an online 'proof' tool, where you can make corrections directly to the text within the tool and also mark up corrections to the captioned figures. You will receive a link to the proof tool via email later in the production process.

When you receive the eproof link, please check that the display items are as follows (ms nr: 2020-06-10271C): Figs # (black & white): 0 (colour): Tables: 1, Boxes: None, Extended Data display items: none. SI: yes. The eproof contains the main-text figures edited by us and (if present) the Extended Data items (unedited except for the legends) and the Supplementary Information (unedited).

Please note that the eproof should be amended in only one browser window at any one time, otherwise changes will be overwritten.

Please check the edits to all main-text figures (and tables, if any) very carefully, and ensure that any error bars in the figures are defined in the figure legends. Extended Data items may be revised only if there are errors in the original submissions. If you need to revise any Extended Data items please upload these files when you submit your corrections to this preproof.

- A single sentence (of about 30 words) summarizing your paper (websum), which will appear online on the table of contents and in e-alerts, has been provided below. Please check this sentence for accuracy and appropriate emphasis.]

[TYPESETTER: websum: **The findings of a World Health Organization panel that is developing animal models to test vaccines and therapeutic agents for the treatment of COVID-19, and their relevance for preclinical testing, are reviewed.**]

Animal models for COVID-19

César Muñoz-Fontela¹, William E. Dowling², Simon G. P. Funnell³, Pierre-S. Gsell⁴, Ximena Riveros Balta⁴, Randy A. Albrecht⁵, Hanne Andersen⁶, Ralph S. Baric⁷, Miles W. Carroll⁸, Marco Cavaleri⁸, Chuan Qin⁹, Ian Crozier¹⁰, Kai Dallmeier¹¹, Leon de Waal¹², Emmie de Wit¹³, Leen Delang¹⁴, Erik Dohm¹⁵, W. Paul Duprex¹⁵, Darryl Falzarano¹⁶, Courtney L. Finch¹⁷, Matthew B. Frieman¹⁸, Barney S. Graham¹⁹, Lisa Gralinski²⁰, Kate Guilloyle¹², Bart L. Haagmans²¹,

Geraldine A. Hamilton²², Amy L. Hartman¹⁸, Sander Herfst²¹, Suzanne J. F. Kaptein¹¹, William Klimstra²³, Ivana Knezevic⁴, Phillip R. Krause²⁴, Jens H. Kuhn¹⁷, Roger Le Grand²⁵, Mark Lewis⁶, Wen-Chun Liu⁵, Pauline Maisonnasse²¹, Anita K. McElroy²⁶, Vincent Munster³, Nadia Oreshkova²⁷, Angela L. Rasmussen²⁸, Joana Rocha-Pereira¹¹, Barry Rockx²¹, Estefanía Rodríguez¹, Thomas Rogers²⁹, Francisco J. Salguero³, Michael Schotsaert⁴, Koert Stittelaar¹², Hendrik Jan Thibaut¹¹, Chien-Te Tseng³⁰, Júlia Vergara-Alert³¹, Martin Beer³², Trevor Brase³⁰, Jasper F. W. Chan³³, Adolfo Garcia-Sastre⁵, Johan Neyts¹¹, Stanley Perlman³⁴, Douglas S. Reed¹³, Juergen A. Richt³⁵, Chad J. Roy³⁶, Joaquim Segalés³¹, Seshadri S. Vasan^{37,38}, Ana Maria Henao-Restrepo⁴⁴ & Dan H. Barouch^{39,4}

[Author: please note that we style each individual affiliation with a separate number. I have flagged up where I wasn't sure if two affiliations had been combined into a single number. If necessary, please can you separate out onto two lines with full details of each?]

¹Bernhard Nocht Institute for Tropical Medicine, German Center for Infection Research (DZIF) **[Author: single affiliation?]**, Hamburg, Germany.

²Centre for Epidemic Preparedness, Washington, DC, USA.

³National Infection Service, Public Health England, Salisbury, UK.

⁴World Health Organization, Geneva, Switzerland.

⁵Department of Microbiology, Global Health and Emerging Pathogens Institute, Icahn School of Medicine at Mount Sinai, New York, NY, USA.

⁶Bioqual Inc., Rockville MD20850, USA.

⁷Department of Epidemiology, University of North Carolina at Chapel Hill **[Author: OK?]**, Chapel Hill, NC, USA.

⁸European Medicines Agency, Amsterdam, The Netherlands.

⁹Institute of Laboratory Animal Sciences, Chinese Academy of Medical Sciences and Peking Union Medical College **[Author: single affiliation (hosted jointly by the academy/college?)]**, Peking, China.

¹⁰Clinical Monitoring Research Program Directorate, Frederick National Laboratory for Cancer Research, Frederick, MD, USA.

¹¹Laboratory of Virology and Chemotherapy, Rega Institute for Medical Research, Department of Microbiology, Immunology and Transplantation, KU Leuven **[Author: OK? i.e. I have styled as single affiliation (laboratory part of the institute, which is part of the department, which is part of the university)]**, Leuven, Belgium.

¹²Viroclinics Xplore, Schaijk, The Netherlands.

¹³Laboratory of Virology, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Hamilton, MT, USA.

¹⁴**[Author: is there any department, institute or similar associated with this affiliation?]** University of Alabama at Birmingham, Birmingham, AL, USA.

¹⁵Department of Microbiology and Molecular Genetics, Center for Vaccine Research, [Author: single affiliation? Note that I have switched the order of department/centre (department is currently styled as part of the centre). This was just to match styling in affiliations 23, 26 where this order is given; please amend for consistency in all affiliations, if this would be more accurate], University of Pittsburgh, Pittsburgh, PA, USA.

¹⁶VIDO-Intervac, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

¹⁷Integrated Research Facility at Fort Detrick, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Frederick, MD, USA.

¹⁸Department of Microbiology and Immunology, University of Maryland School of Medicine, Baltimore, MD, USA.

¹⁹Vaccine Research Center, National Institute of Allergy and Infectious Diseases, National Institutes of Health, [Author: OK? Spelled out NIAID, NIH for consistency with affiliations 13, 17 (we don't have a particular preference, beyond consistency, so please amend if preferred)], Bethesda, MD, USA.

²⁰Department of Epidemiology, University of North Carolina at Chapel Hill [Author: OK?], Chapel Hill, NC, USA.

²¹Department of Viroscience, Erasmus University Medical Center, Rotterdam, The Netherlands.

²²Emulate Inc. Boston, MA, USA.

²³Department of Immunology, Center for Vaccine Research, University of Pittsburgh, Pittsburgh, PA, USA.

²⁴Center for Biologics Evaluation and Research, FDA, Silver Spring MD, USA.

²⁵Center for Immunology of Viral, Auto-immune, Hematological and Bacterial diseases (IMVA-HB/IDMIT), Inserm, CEA, Université Paris-Saclay, Paris, France [Author: OK?].

²⁶Division of Pediatric Infectious Diseases, Center for Vaccine Research, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA.

²⁷Wageningen Bioveterinary Research (WBVR), Wageningen University and Research, Lelystad, The Netherlands.

²⁸Center for Infection and Immunity, Columbia Mailman School of Public Health, New York, NY, USA.

²⁹Division of Infectious Diseases, University of California San Diego, San Diego, [Author: OK?] CA, USA.

³⁰Department of Microbiology and Immunology, University of Texas Medical Branch, Galveston, TX, USA.

³¹Centre de Recerca en Sanitat Animal (CReSA, IRTA-UAB), Departament de Sanitat i Anatomia Animals, Facultat de Veterinària [Author: single affiliation?], Universitat Autònoma de Barcelona [Author: OK?], Barcelona, Spain.

³²Institute of Diagnostic Virology, Friedrich-Loeffler-Institut, Greifswald-Insel Riems, Germany.

³³Carol Yu Centre for Infection, Department of Microbiology, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, China.

³⁴Department of Microbiology and Immunology, University of Iowa, Iowa City, IA, USA.

³⁵College of Veterinary Medicine, Manhattan, KS, USA.

³⁶Tulane National Primate Research Center, 18703 Three Rivers Road, Covington, LA 70433 US.

³⁷Australian Centre for Disease Preparedness, CSIRO, Geelong, Victoria, Australia.

³⁸Department of Health Sciences, University of York, York, UK. [Author: please note I have separated the original affiliation 37 into two (Australian Centre for Disease Preparedness and University of York)]

³⁹Center for Virology and Vaccine Research, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA.

†e-mail: [HYPERLINK "mailto:henaorestrepa@who.int"]; [HYPERLINK "mailto:dbarouch@bidmc.harvard.edu"]

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the aetiological agent of coronavirus disease 2019 (COVID-19), an emerging respiratory infection caused by the introduction of a novel coronavirus into humans late in 2019 (first detected [Author: OK?]in Hubei province, China). As of 11 September 2020, SARS-CoV-2 has spread to 215 countries, has infected more than 28 million people and has caused more than 910,000 deaths. As humans do not have pre-existing immunity to SARS-CoV-2, there is an urgent need to develop therapeutic agents and vaccines to mitigate the current pandemic and to prevent the re-emergence of COVID-19. In February 2020, the World Health Organization (WHO) assembled an international panel to develop animal models for COVID-19 to accelerate the testing of vaccines and therapeutic agents. This review summarizes the findings to date and provides relevant information for preclinical testing of vaccine candidates and therapeutic agents for COVID-19.

Although there are discrepancies in the estimated case-to-fatality ratio of COVID-19 in humans, it is clear that severity is age-stratified and that the case-to-fatality ratio in patients over 65 years of age is probably higher than 1%¹. Infection with SARS-CoV-2 is initially characterized by a range of mild symptoms, including fever, cough, dyspnoea and myalgia². In part, these symptoms are caused by the capacity of SARS-CoV-2 to replicate efficiently in the upper respiratory tract. Although most individuals subsequently resolve the infection, the disease may also progress to severe pneumonia. In severe cases, bilateral lung involvement with ground-glass opacities is [Author: OK? i.e. this refers back to 'involvement' ('bilateral lung involvement with ground-glass opacities' is a single unit in this sentence). Or possibly rephrase to something like '...Severe cases often see bilateral involvement of the lungs, and ground-glass opacities are the most common...' if plural version is more accurate?]the most common finding in computed tomography scanning of the chest [Author: OK?]. Disease progression can then involve acute respiratory distress syndrome and—in some cases—an inflammatory syndrome that resembles septic shock. Histological examination of the lungs of patients showed bilateral diffuse alveolar damage, pulmonary oedema and formation of hyaline membranes [Author: OK?]³. COVID-19 is also characterized by damage to additional organ systems,

Formatted: German (Germany)

Formatted: German (Germany)

Formatted: German (Germany)

associated with coagulopathy and characterized by elevated fibrinogen and D-dimer levels that indicate increased thrombus generation and fibrinolysis⁴. Individuals at a higher risk of developing severe COVID-19 include those with underlying conditions, such as obesity, diabetes, hypertension, chronic respiratory disease and cardiovascular disease¹.

Through the ‘Solidarity’ trials, the WHO has launched a global campaign to test therapeutic agents and vaccines on an unprecedented scale⁵. To test these and other potential medical countermeasures, it is imperative to identify animal models for COVID-19 that provide measurable readouts for potential interventions and that use representative virus isolates⁶. To this end, the WHO research and development [Author: OK?] ‘Blueprint’ [Author: OK? As with ‘Solidarity’ (specific name of the team/trial?) Or otherwise clarify the use of the term/uppercase here] team established an ad hoc expert working group focused on the disease modelling of COVID-19, known as [Author: OK?] WHO-COM. In this review, we provide a summary of the current literature on animal models for COVID-19 (Table 1, Supplementary Table 1) that includes studies generated by the WHO-COM group since February 2020, which we hope will serve to facilitate further preclinical analysis of vaccines and therapeutic agents.

Mouse models

The main impediment to the infection of mouse (*Mus musculus*) [Author: OK? Added for consistency with having species names in other models] cells with SARS-CoV-2 is the lack of appropriate receptors to initiate viral infection. SARS-CoV-2—as with severe acute respiratory syndrome coronavirus (SARS-CoV)—uses the cellular surface protein angiotensin-converting enzyme 2 (ACE2) to bind and enter cells, and mouse [Author: please note that we use ‘murine’ only where rat and mouse are both intended, so I have amended throughout this section] ACE2 does not effectively bind the viral spike protein⁷. Several strategies have been developed to solve this problem, as detailed here. [Author: OK?]

Virus adaptation to mouse ACE2

The spike protein of SARS-CoV-2 can be modified to gain effective binding to mouse ACE2. One strategy to achieve this modification [Author: OK?] is the sequential passaging of SARS-CoV-2 in mouse lung tissue⁸. This method is successful because populations of RNA viruses [Author: OK?] consist of a swarm [Author: OK? Or clarify intention of ‘mutant swarm’] of closely related viral quasispecies. Rare viruses in the swarm that contain mutations of the spike protein that increase their binding affinity to mouse ACE2 are expected to be selected, owing to their higher levels of replication

in mouse lungs. Alternatively, SARS-CoV-2 can be adapted to infect mouse cells [Author: OK?] by using reverse genetics to modify the receptor-binding domain of the virus so that it can infect mouse cells via the mouse ACE2 protein. Using two [Author: OK?] approaches, mice have been sensitized for infection but have developed only [Author: OK?] very mild disease⁹. It is likely that additional efforts aimed at adapting SARS-CoV-2 to mice [Author: OK?] will result in the outgrowth of additional virus variants that can cause more severe disease. These mice will then [Author: OK?] be useful for pathogenesis studies, and for studies of antiviral agents and vaccines. One potential caveat is that the mutations in the SARS-CoV-2 spike protein that enhance affinity for the mouse ACE2 receptors are located in the receptor-binding domain, which is the primary target for the neutralizing antibody response. These mutations could thus [Author: OK?] result in a monoclonal antibody that neutralizes the wild-type virus [Author: OK?] being falsely considered as non-neutralizing.

Expression of human ACE2 in genetically modified mice

Another approach to infect mice with SARS-CoV-2 [Author: OK?] consists of modifying the mice to express human [Author: OK?] ACE2. There are currently three of these [Author: OK?] transgenic mouse models, in which human ACE2 is under the expression of a tissue-specific promoter (for example, the *Krt18* promoter [Author: OK?] for epithelial cells¹⁰; K18-hACE2 mice [Author: OK?] **So definition for abbreviation below is present?**), a universal promoter (cytomegalovirus [Author: OK?] enhancer followed by the chicken β -actin promoter¹¹) or the endogenous mouse *Ace2* [Author: OK?] **OK? i.e. mouse gene symbol (<http://www.informatics.jax.org/marker/MGI:1917258>)** promoter¹². All of these mice are susceptible to infection by SARS-CoV-2, but differences in their expression of [Author: OK?] human ACE2 result in a pathogenic range of mild to lethal disease. With the exception of the model in which human ACE2 is controlled by the *Ace2* [Author: OK?] promoter, these models develop encephalitis after infection with SARS-CoV¹³ or SARS-CoV-2¹⁴. However, while SARS-CoV infection of K18-hACE2 mice results in highly lethal encephalitis, the neurological infection caused by SARS-CoV-2 infection in these mice is less severe. Some mice appear to succumb to severe pneumonia, at times at which the brain infection is not substantial¹⁵. Notably, these mice develop evidence of thrombosis and anosmia after infection with SARS-CoV-2 and have been used for studies of the innate [Author: OK?] and T cell responses¹⁶. These mouse models develop severe disease after infection with SARS-CoV-2, and therefore may provide proof-of-concept data to support vaccine and therapeutic efficacy and may be useful for pathogenesis studies.

An alternative approach that mirrors the tissue-specific expression of human ACE2 is to substitute the *Ace2* [Author: OK? **OK? i.e. mouse gene symbol**] gene with the human *ACE2* gene. Similar

models that express human dipeptidyl peptidase 4—the receptor used by Middle East respiratory syndrome coronavirus (MERS-CoV)—have successfully been developed^{17–19}. One mouse model humanized with human ACE2 has been reported, and supports replication of SARS-CoV-2 in respiratory and brain tissues (although mice do not develop severe disease)²⁰. However, more severe disease is expected to occur in human ACE2 knock-in mice if virus is passaged serially through mouse lungs. Overall, these mice will probably be very useful models of human disease—especially if combined with viral adaptation that increases virulence of SARS-CoV-2 in mice.

Finally, instead of permanent genetic modification, it is also possible to generate mice that are susceptible to infection with SARS-CoV-2 by sensitizing the respiratory tract of these mice to SARS-CoV-2 replication through transduction with adenovirus or adeno-associated virus that expresses human ACE2 (Ad5-hACE2 or AAV-hACE2, respectively) [Author: OK?]. This system, which was pioneered in studies of MERS [Author: OK?]²¹, allows the transient replication of SARS-CoV-2 in the lungs of mice for several days until immune clearance, and it has the advantage that it can be applied quickly to different strains of mice. Upon infection with SARS-CoV-2, mice transduced with [Author: OK?] Ad5-hACE2 develop a widespread infection of the lungs and histopathological changes that are consistent with viral pneumonia. These mice developed clinical disease, as characterized by changes in body scoring (hunching) and weight loss. Virus is generally cleared by seven days after infection, although not in some immunocompromised mice^{14,22}. Mice sensitized via AAV-hACE2 delivery are also susceptible to infection with SARS-CoV-2, but virus replication seems to be lower than in mice transduced with Ad5-hACE2²³. Mice sensitized with Ad5-hACE2 or [Author: OK?] AAV-hACE2 are useful for evaluating vaccines and antiviral therapies, as well identifying SARS-CoV-2-specific antibody and T cell epitopes. A limitation with these mice—as well as in some of the transgenic mice expressing human ACE2—is that human ACE2 is expressed ectopically, which may change the tissue or cellular tropism of the virus.

Other mouse models and approaches

Additional ongoing efforts to develop mouse models for studying SARS-CoV-2 infection involve mice humanized with human ACE2 and human haematopoiesis, or Collaborative Cross mice [Author: OK?]. Mice transplanted with human immune cells (known as human immune system mice) [Author: OK? Or are these two separate things?] have widely been used to study human-specific viral infections^{24,25}, and the combination of human immune system and ACE2 expression could help to further explore the efficacy of vaccines and therapies—in particular, those that modulate human immune cells. Similarly, previous studies have shown that [Author: OK?] the Collaborative Cross

model of genetic diversity (a panel of recombinant inbred mice with expanded susceptibility to viruses that normally do not cause disease in laboratory mice) [Author: OK?] can be used to enhance virus disease susceptibility; however, infection remains heavily dependent on a functional entry receptor^{26,27}. Collaborative Cross mice were previously used with mouse-adapted SARS-CoV to identify mechanisms of pathogenesis and genetic loci that determine susceptibility²⁸. Presumably, Collaborative Cross studies could enable the exploration of an expanded range of SARS-CoV-2 phenotypes in mice that potentially better recapitulates human disease, as mouse-adapted strains become available.

In summary, several mouse models of mild and severe COVID-19 have been described or are under development. All of these models will be useful for the evaluation of vaccines and antiviral agents, and some share features with the human disease. At present, no mouse model recapitulates all aspects of COVID-19 in humans, especially the unusual features such as the pulmonary vascular disease and hyperinflammatory syndromes observed in adults and children, respectively^{29,30}. However, continued refinement may result in models even for these aspects of the human disease.

Syrian hamster model

Syrian hamsters (*Mesocricetus auratus*) are small mammals that have been used as models for infection with [Author: OK?]respiratory viruses, including SARS-CoV, influenza virus and adenovirus^{31–34}. In silico comparison of the ACE2 sequence of humans—known to interact with the receptor-binding domain of the SARS-CoV-2 spike glycoprotein—with that of hamsters³⁵ suggested that Syrian hamsters might be susceptible to infection with SARS-CoV-2. Upon experimental intranasal infection, Syrian hamsters show mild-to-moderate disease with progressive weight loss [Author: OK?]that starts very early after infection (days 1–2 after inoculation). All hamsters that have been challenged by different groups and with different SARS-CoV-2 isolates consistently showed signs of respiratory distress [Author: OK?], including laboured breathing^{35,36}. Additional signs of morbidity included lethargy, ruffled fur and a hunched posture³⁵. After two weeks of infection, hamsters typically recovered. Of particular interest is the fact that infection with SARS-CoV-2 in hamsters reflects some of the demographic differences of COVID-19 in humans. Thus, aged hamsters and male hamsters seem to develop a more severe disease than young and female hamsters, respectively^{37,38}.

In hamsters, the disease associated with SARS-CoV-2 infection [Author: OK?] is associated with high levels of virus replication and histopathological evidence of disease, which included ground-glass opacities and evidence of gas in the cavity surrounding the lungs³⁸. These findings are similar to those previously reported for SARS-CoV infection in this model³². Viral RNA is readily detected in the

respiratory tract and other tissues (such as the small intestine), which could be useful for the evaluation of therapeutic agents and vaccines. Virus transmission to cage-mates has also been observed³⁵, which suggests that hamsters may be useful in transmission studies. Histologically, inflammatory infiltrates with abundant expression of [Author: OK?] viral antigen and apoptosis were observed in the upper and lower respiratory tract, starting at 2 days after infection, being at their most severe at 4 days after infection and resolving at 14 days after infection. Among the non-respiratory-tract tissues, only the intestine demonstrated expression of viral antigen in association with severe epithelial-cell necrosis, damaged and deformed intestinal villi, and increased infiltration of the lamina propria by mononuclear cells [Author: OK?]. Lung disease was also demonstrated by computed tomography. High-resolution micro-computed tomography scans showed airway dilation and substantial [Author: OK?] consolidations in the lungs of infected hamsters³⁶. A quantitative analysis revealed an increase of the non-aerated lung volume in these hamsters. This method thus allows quantitative monitoring of disease without the need to euthanize the animals.

Expression of chemokines and [Author: OK? Or define solidus as used in the original] cytokines in the lungs of hamsters peaked at four days after infection, and then gradually resolved by [Author: OK?] seven days after infection. Interferon- γ , and pro-inflammatory chemokines and [Author: OK? Or define solidus as used in the original] cytokines, were potently induced at two and four days after infection, respectively, [Author: OK?] and dropped to the baseline level at seven days after infection. SARS-CoV-2-induced lung pathology in hamsters appears to be driven by immune pathology, as lung injury at four days after infection is markedly reduced in STAT2-knockout hamsters whereas viral loads are massively increased and viral RNA is disseminated in several peripheral tissues³⁶. Serum neutralizing antibodies were detected as early as seven days after infection. Passive immunization of naive hamsters with samples of this convalescent serum resulted in significantly [Author: Please confirm statistical use intended] reduced viral loads in the respiratory tract, but no obvious improvement in clinical signs and histological changes. Furthermore, SARS-CoV-2 can be transmitted between hamsters via close contact and non-contact routes^{35,39}. Transmission via fomites was possible, but not efficient³⁹.

Because studies in hamsters can be completed quickly and in a cost-effective manner, there is an increasing interest in the use of this model for screening of therapeutic agents. Limited or no efficacy has been demonstrated for the repurposed drugs hydroxychloroquine (with or without azithromycin) and favipiravir—although high doses of favipiravir did reduce infectious virus titres in the lungs of infected hamsters^{40,41}. A YF17D-vectored SARS-CoV-2 vaccine candidate conferred

efficient protection against SARS-CoV-2 challenge in hamsters⁴². Adoptive transfer of SARS-CoV-2 neutralizing antibodies protected hamsters from SARS-CoV-2-induced disease⁴³. A putative [Author: delete 'putative' here?] caveat of hamster models is the lack of research tools for this species—these remain scarce when compared (for example) with those available for mice.

Ferret models

Ferrets (*Mustela putorius furo*) have been shown to be a highly valuable model for testing the pathogenicity and transmission of human respiratory viruses, including influenza virus and respiratory syncytial virus^{44,45}. It is thus not surprising that the ferret model has been investigated for studies of the pathogenesis of COVID-19 and SARS-CoV-2 transmission. Despite the use of different isolates of SARS-CoV-2, the results have been notably consistent across all laboratories.

Following mucosal exposure to SARS-CoV-2, clinical alterations in ferrets are undetectable or mild and may include lethargy, nasal discharge, wheezing, oropharyngeal build-up of [Author: OK?]mucus, sneezing and loose stools⁴⁶. Ferrets infected by small-particle aerosols had similar disease, albeit at 100-fold lower doses. Peaks of elevated body temperatures have been observed in some studies, although alterations in body weight are absent or minimal. Minor alterations in haematological parameters, such as mild lymphopenia and neutrophilia, have also been observed. Shedding of SARS-CoV-2 virus is observed in nasal and oropharyngeal swabs^{47–50}. As with Syrian hamsters, virus replication is detected in the upper respiratory tract very early after infection (day 2) and is detectable during two weeks of infection. Virus replication in ferrets appears to be restricted to the respiratory and gastro-intestinal [Author: OK?] tracts.

The predominant histopathology findings in SARS-CoV-2-infected ferrets euthanized at the peak of virus replication include mixed (pyogranulomatous or eosinophilic and histiocytic) inflammation within alveolar spaces and perivascular mononuclear inflammation. In addition, in the larger airways of these ferrets, bronchial submucosal granulomatous foci with eosinophilic material and collagen fragments (suggestive of collagen degeneration) were observed. Microscopic findings in euthanized ferrets were mild, and included broncho-alveolar or alveolar inflammation.

Ferrets also are able to transmit virus efficiently to uninfected ferrets in experimental settings. Efficient transmission occurred from experimentally infected ferrets to naive cage-mates; transmission from exposed ferrets to companion ferrets that were separated by steel grids did occur, but was not efficient^{49,51}. These studies indicated that airborne transmission of SARS-CoV-2 can occur, and suggested that the ferret model may be useful for further transmission studies.

To date, studies performed in ferrets strongly indicate that experimental SARS-CoV-2 infection results in a predominantly upper-respiratory-tract infection in these animals. These findings make the ferret model well-suited to testing the efficacy of mucosal vaccines and therapeutic agents that aim to prevent upper airway infection and/or transmission.

Non-human-primate models

Non-human-primate models have been explored for COVID-19 in rhesus macaques (*Macaca mulatta*), cynomolgus macaques (*Macaca fascicularis*) and African green monkeys (*Chlorocebus aethiops*) [Author: OK? Added species names for consistency with the other models]. Studies from several laboratories have shown high levels of viral replication (including both viral RNA and infectious virus) in both the upper and lower respiratory tract, pathological features of viral pneumonia and the variable induction of mild clinical disease^{52–55}. Only mild clinical disease has been reported in non-human primates, and insufficient comparable data exists at this time to determine whether there is more clinical disease in rhesus macaques, cynomolgus macaques or African green monkeys. The induction of innate, humoral and cellular immune responses as well as robust protection against rechallenge has also been reported, which demonstrates the induction of natural protective immunity in this model⁵⁴. Non-human primates inoculated via multiroute mucosal, intrabronchial and aerosol exposure [Author: OK?] showed radiographic abnormalities (by chest X-ray, computed tomography scan or fluorodeoxyglucose positron emission tomography [Author: OK?] scan) within 2 days, which tended to resolve by 11–15 days after infection. Evidence of the shedding of live virus has been found in both the respiratory and gastro-intestinal tracts. In addition, haematological changes—with evidence of T cell activation, mild lymphopenia and neutrophilia—have been [Author: OK?] observed in infected non-human primates.

In humans, [Author: OK?] infection with SARS-CoV-2 in elderly individuals is associated with an adverse clinical outcome. Currently, two non-human-primate studies in rhesus and cynomolgus macaques have focused on the effect of age on infection with SARS-CoV-2^{53,56}. Both studies showed that aged macaques shed virus from nose and throat for longer periods of time than do young adult macaques. Higher viral loads were also detected in lung tissue of aged rhesus macaques. In addition, advanced age in rhesus macaques was also associated with an increased number of [Author: OK? increased severity of?] radiological and histopathological changes. These studies highlight the importance of including age in the selection criteria of animals, as testing treatment options for severe disease require animal models that recapitulate the disease as seen in humans.

Recent studies have reported the immunogenicity and protective efficacy of several candidates for a COVID-19 vaccine in the rhesus macaque model^{57–61}. A concern is that different challenge stocks were used in each of these studies [Author: OK?], and may have contributed to the variable magnitude, consistency and duration of viral replication observed in the control groups in these studies. Standardized challenge stocks and procedures will be needed to compare vaccine efficacy in non-human primates. Despite this caveat, the vaccines tested so far have induced binding and neutralizing antibodies and have resulted in a substantial reductions of viral replication in the lower respiratory tract, and—to a lesser extent—the upper respiratory tract, following challenge with SARS-CoV-2. These findings raise the possibility that vaccines may be more effective at blocking disease of the lower respiratory tract than of the upper respiratory tract [Author: OK?]. Anamnestic immune responses were observed in some studies, but not others, following challenge, which suggests that protection is often mediated by rapid immunological control but that complete protection may also be possible. Vaccine-elicited neutralizing-antibody titres also correlated with protective efficacy⁵⁷.

Additional animal models

In addition to animal models that are more commonly used in infectious disease research, recent studies have characterized infection with SARS-CoV-2 in other animals. Here we highlight these recent findings, which may have implications for virus ecology and the evolution of the current pandemic.

Mink

The mink (*Neovison vison*), which is a member of the [Author: OK?] Mustelidae, has previously been shown to be susceptible to infection with SARS-CoV⁶²; mink lung epithelial cells and lung-derived cells could also be infected with SARS-CoV⁶³. Mink are also [Author: OK?] naturally susceptible to infection with SARS-CoV-2. In the Netherlands, an infection of mink with SARS-CoV-2 on two breeding farms was detected at the end of April 2020—most probably as a result of contact with a farmer worker who was infected with SARS-CoV-2⁶⁴. At the time of writing, 41 additional mink farms have confirmed infections with SARS-CoV-2 and thousands of mink have been culled in The Netherlands and Spain. In contrast to ferrets, mink displayed moderate respiratory signs that included laboured breathing, and some mink died as a result of infection. SARS-CoV-2 virus was found in the majority of throat and rectal swabs collected from dead mink from both farms. Similar to ferrets, the viral loads in mink were higher in the throat swabs than in the rectal swabs. Although mink may represent a suitable model for moderate-to-severe COVID-19, they are difficult to handle under laboratory conditions.

Cats

Three experiments have demonstrated that domestic cats (*Felis catus*) are highly susceptible to infection with SARS-CoV-2 and are able to transmit the virus to naive cats [Author: OK?]^{50,65,66}. For example, the inoculation of the SARS-CoV-2 isolate CTan-H into juvenile (70–100 days old) and subadult cats (6–9 months old) through the intranasal route resulted in virus replication in the upper and lower respiratory tract, as well as in the gastro-intestinal tract. Both experimentally infected and contact cats seroconverted. At necropsy, interstitial pneumonia, loss of cilia and epithelial necrosis, as well as inflammation in nasal turbinates and trachea, were observed. The authors did not describe clinical signs in any of the infected cats, except that 2 juvenile cats (out of 10 in total) died (on day 3 and day 13 after infection)⁵⁰. Virus antigen was found in epithelial cells of the nasal turbinates, necrotic debris in the tonsil, submucosal glands of the trachea and enterocytes of the small intestine. SARS-CoV-2 transmission by droplets was also demonstrated⁵⁰. Although cats may represent a suitable model for asymptomatic-to-moderate COVID-19, before they are used as such we should be sure that the benefits [Author: OK?] outweigh the concerns of using companion animals for research; furthermore, cats are difficult to handle in biosafety level-3 containment, and are not a standard animal model. However, owing to their close contact to humans, additional studies—for example, on environmental contamination (cages, beds, food and water bowls, litterboxes and so on) or on transmission efficiency—may be important to inform veterinary and public health authorities about the risk of cats as intermediate hosts or [Author: OK? Or define solidus as used in the original]virus carriers at the interface between SARS-CoV-2, humans and animals [Author: OK?].

Dogs

Dogs (*Canis lupus familiaris*) have been shown to be susceptible to SARS-CoV-2, but to a very mild degree. Two experiments have so far been published in this species, which conclude that dogs have a low susceptibility to infection with SARS-CoV-2^{50,66}. The susceptibility of both cats and dogs to natural and experimental infection with SARS-CoV-2 strongly suggests that antibody testing in these species could be a useful tool for epidemiological studies, in particular in areas with high density of cases of COVID-19 in humans.

Pigs

In silico data suggested that swine ACE2 should bind the spike protein of SARS-CoV-2. However, several experimental infections performed in pigs (*Sus scrofa domestica*) by different research groups indicate that this species is not susceptible to infection with SARS-CoV-2 in vivo^{49,50}. No clinical signs and no clear evidence of virus replication have been observed in pigs. Therefore, pigs do not appear to

represent a suitable animal model for COVID-19. Conversely, previous studies have reported infection with SARS-CoV in pigs⁶⁷. Experimental infection of pigs with SARS-CoV resulted in the detection of viral RNA in the blood and seroconversion, but not in clinical signs or virus isolation, which ruled out pigs as amplifying hosts for SARS-CoV⁶⁸. By contrast, infection with another bat betacoronavirus—known as swine acute diarrhoea syndrome coronavirus (SADS-CoV)—has been demonstrated in swine⁶⁹. Therefore, owing to their importance as livestock and the enormous global number of pigs, it may be important for future studies to address the putative susceptibility of additional pig breeds to infection with SARS-CoV-2.

Chickens and ducks

At least one *in silico* study using the informational spectrum methodology proposed chicken as an animal species that is potential susceptible to infection with SARS-CoV-2⁷⁰. However, the limited experimental studies performed so far have suggested that chicken—including embryonated chicken eggs—and ducks are not susceptible to infection with SARS-CoV-2^{49,50,71}. Neither chicken nor ducks appear to represent suitable animal models for studies of SARS-CoV-2 infection. These findings are similar to those previously reported for infection with SARS-CoV, in which experimental inoculation of different bird species with SARS-CoV (including chickens) resulted in neither replication nor seroconversion⁷².

Fruit bats

Pre-pandemic studies that assessed the potential emergence of SARS-like coronaviruses in bats indicated that some of these viruses were able to use several orthologues of human ACE2 for docking and entry^{73,74}. These studies underscored the importance of coronavirus surveillance studies in bats, as these animals are regarded as the natural reservoir of many coronaviruses—including SARS-CoV and SARS-CoV-2^{75,76}. The intranasal inoculation of fruit bats (*Rousettus aegyptiacus*) with SARS-CoV-2 resulted in efficient replication in the upper respiratory tract and seroconversion in seven out of nine of the bats. Transmission occurred to one out of three direct-contact animals. Clinical signs were absent, but rhinitis could be detected by immunohistology⁴⁹. Conversely, previous studies showed that a SARS-like coronavirus did not replicate in fruit bats after experimental inoculation⁷⁷. These findings suggest that, although *Rousettus* bats are not the original reservoir species of SARS-CoV-2, experimental infection of these fruit bats could help to model the pathophysiology of the virus in its host.

Preclinical alternatives to animal models

Historically, animal alternatives for studying respiratory viruses have involved in vitro approaches such as cell lines (for example, Vero, A549 and MDCK cell lines [Author: OK?]) or primary-tissue-derived human cells in conventional cell culture [Author: OK?]. However, over the past decade, advances in engineering, cell biology and microfabrication have come together to enable the development of new human-cell-based alternatives to animal models. In this regard, micro-engineered organs-on-chips and lung organoids have been shown to support key hallmarks of the cytopathology and inflammatory responses observed in human airways after infection with SARS-CoV-2 and have served to facilitate the [Author: OK?] study of human disease pathogenesis, test candidate COVID-19 therapeutic agents and expedite drug repurposing^{78,79}.

Perspectives

Since SARS-CoV-2 emerged in the human population in late 2019, it has spread via human-to-human transmission to most countries in the world, leading to a coronavirus pandemic of an unprecedented scale. Under the umbrella of the WHO, the WHO-COM is fostering the development of animal models for COVID-19 through international exchange of protocols, unpublished data and ideas across many laboratories in the world. As discussed in this Review, a number of studies have been conducted—many of them by members of the WHO-COM—that indicate that some the animal models support viral replication.

A study⁸⁰ [Author: OK?] based on the three-dimensional X-ray structure of SARS-CoV-2 spike protein bound to human ACE2 have discussed the variance observed between 19 different animal species, as well as within 3 colonies of the same species of bat from different provinces within China. This analysis noted that many predicted affinities of the spike protein for the ACE2 receptor [Author: OK? Or clarify 'affinities' here] (especially those of dog and pig) did not match the relative natural resistance of the corresponding species [Author: OK?] to SARS-CoV-2. This was proposed to be due to differences between species in the levels of ACE2 expression in the respiratory epithelium⁸⁰. Similarly, a recent study aimed to predict the host range of SARS-CoV-2 through a comparative structural analysis of ACE2 in more than 400 vertebrates. These data show discrepancies between the predicted susceptibilities to infection and those experimentally observed; ferrets, for example, were predicted to have a very low susceptibility to infection⁸¹. These data suggest that susceptibility to infection may be a function of several factors, including genetic *ACE2* [Author: OK?] composition, organ-specific ACE2 expression and other host factors (such as additional receptors and host immune responses).

One immediate goal of the WHO-COM [Author: OK?]group is to evaluate whether mimicking human comorbidities, co-infections or the immune senescence associated with age in animal models may result in more-severe disease phenotypes. The existing animal models have also been valuable for testing vaccines and therapeutic agents. Several vaccine candidates have shown protection in rhesus macaques^{57–61}, and both the cynomolgus and rhesus macaque models have been useful for the testing of therapeutic agents⁸². In future studies, it will be important to define key outcome measures that would allow comparison between candidate interventions in animal models and humans. Many of the pathogenesis studies described in this Review have also highlighted an important caveat in COVID-19 research, which are the methods used to measure virus replication. The group found that viral RNA or [Author: OK? Or define solidus as used in the original]genome copy numbers measured by quantitative PCR assays were three-to-four orders of magnitude higher than infectious virus titres measured by cell culture assays, and thus combining cytopathic effect or plaque assays with the PCR-based quantification of viral RNA is a prudent approach to evaluating virus shedding and the potential for virus transmission. Standardization of these measurements will be important for the future evaluation of vaccines and therapeutic agents.

There have been concerns that coronaviruses might pose a risk of vaccine-associated enhanced respiratory disease or antibody-dependent enhancement of virus entry and replication in cells bearing the Fc receptor [Author: OK?]⁸³. These types of syndrome have been linked to vaccines that induced substantial levels of non-neutralizing antibodies or responses biased toward type-2 helper CD4 T cells [Author: OK?]. Therefore, evaluating the relative potency of neutralizing activity to overall binding antibody and obtaining evidence for responses biased toward the CD4 subset of T cells [Author: OK?]through cytokine production or antibody-subtype response patterns would be informative. To ensure such models are able to provide these readouts, it is important to attempt to induce vaccine-associated enhanced respiratory disease in models of COVID-19 challenge using suboptimal doses of candidate vaccines or antigenic preparations with the goal of inducing the required detrimental immune profile and associated lung pathology.

Outlook

There are a number of small and large animal models that investigators can use to explore important aspects of COVID-19, including pathology, transmission and host responses to SARS-CoV-2, as well as to help to establish the safety and efficacy of potential therapeutic agents or vaccines. Future studies will need to standardize challenge stocks, assays and protocols to allow comparisons of different

candidate interventions. Animal models are needed to assess vaccine-associated enhanced respiratory disease, and the establishment of a positive control for this disease will be important.

Continued refinement and development of animal models for COVID-19 will contribute to the development of vaccines, therapeutic agents and other countermeasures. Large-scale clinical trials are currently underway to test multiple candidate preventative and therapeutic interventions in humans. The outcomes of these clinical-efficacy trials will allow an unprecedented opportunity for the back-validation and refinement of these animal models.

Received 22 June 2020; accepted 15 September 2020

[Author: please note that there are queries in the reference list below. For all preprint entries, please can you update to published versions if available?]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1016/S1473-3099(20)30243-7\" _id=\"b1\" _issn=\"1474-4457\"
_pubmed=\"32240634\" ""]1. Verity, R. et al. Estimates of the severity of coronavirus
disease 2019: a model-based analysis. *Lancet Infect. Dis.* **20**, 669–677 (2020). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1371/journal.ppat.1008536\" _id=\"b2\" _issn=\"1553-7374\"
_pubmed=\"32442210\" ""]2. Tang, D., Comish, P. & Kang, R. The hallmarks of
COVID-19 disease. *PLoS Pathog.* **16**, e1008536 (2020). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1016/j.jaccas.2020.04.001\" _id=\"b3\" _issn=\"2666-0849\"
_pubmed=\"32292915\" ""]3. Chau, V. Q. et al. The imperfect cytokine storm: severe
COVID-19 with ARDS in a patient on durable LVAD support. *JACC: Case Reports* **2**, 1315–

1320 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1152/physrev.00013.2020\" _id="b4\" _issn="1522-1210\"
_pubmed="32216698\" ""]4. Ji, H.-L., Zhao, R., Matalon, S. & Matthay, M. A.
Elevated plasmin(ogen) as a common risk factor for COVID-19 susceptibility. *Physiol. Rev.*
100, 1065–1075 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1038/d41587-020-00005-z\" _id="b5\" _issn="1546-1696\"
_pubmed="32203293\" ""]5. Hodgson, J. The pandemic pipeline. *Nat. Biotechnol.* 38,
523–532 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1111/tbed.13588\" _id="b6\" _issn="1865-1682\"
_pubmed="32306500\" ""]6. Bauer, D. C. et al. Supporting pandemic response using
genomics and bioinformatics: a case study on the emergent SARS-CoV-2 outbreak.
Transbound. Emerg. Dis. 67, 1453–1462 [Author: OK?](2020). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1128/JVI.00127-20\" _id="b7\" _issn="1098-5514\"
_pubmed="31996437\" ""]7. Wan, Y., Shang, J., Graham, R., Baric, R. S. & Li, F.

Receptor recognition by novel coronavirus from Wuhan: an analysis based on decade-long structural studies of SARS coronavirus [Author: OK?]. *J. Virol.* **94**, e00127-20 (2020).[

HYPERLINK

"https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=31996437&dopt=Abstract"][IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id="b8\ ""]8. Gu, H. et al. Rapid adaptation of SARS-CoV-2 in BALB/c mice: novel mouse model for vaccine efficacy. Preprint at <https://www.biorxiv.org/content/10.1101/2020.05.02.073411v1> [Author: OK?] (2020).[IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE "unknown" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id="b9\ _pubmed="32511406\ ""]9. Dinno, K. H. et al. A mouse-adapted SARS-CoV-2 model for the evaluation of COVID-19 medical countermeasures. Preprint at <https://www.biorxiv.org/content/10.1101/2020.05.06.081497v1> [Author: OK?] (2020).[HYPERLINK "https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=32511406&dopt=Abstract"][IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi="10.1128/JVI.02012-06\ _id="b10\ _issn="0022-538X\ _pubmed="17079315\ ""]10. McCray, P. B. Jr et al. Lethal infection of K18-hACE2 mice infected with severe acute respiratory syndrome coronavirus. *J. Virol.* **81**, 813-821 (2007).[IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1128/JVI.01702-06" _id="b11" _issn="0022-538X"
_pubmed="17108019" "" "]11. Tseng, C.-T. K. et al. Severe acute respiratory syndrome
coronavirus infection of mice transgenic for the human angiotensin-converting enzyme 2 virus
receptor. *J. Virol.* **81**, 1162–1173 (2007). [IF "x_-3" " IF DOCPROPERTY "x_t" < N
"</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1038/s41586-020-2312-y" _id="b12" _issn="1476-4687"
_pubmed="32380511" "" "]12. Bao, L. et al. The pathogenicity of SARS-CoV-2 in
hACE2 transgenic mice. *Nature* **583**, 830–833 (2020). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " """]

**A study that shows that transgenic mice that express human ACE2 undergo severe disease after
SARS-CoV-2 infection.**

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1128/JVI.00737-08" _id="b13" _issn="1098-5514"
_pubmed="18495771" "" "]13. Netland, J., Meyerholz, D. K., Moore, S., Cassell, M. &
Perlman, S. Severe acute respiratory syndrome coronavirus infection causes neuronal death in
the absence of encephalitis in mice transgenic for human ACE2. *J. Virol.* **82**, 7264–7275
(2008). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id="b14" _pubmed="32676603" "" "]14. Rathnasinghe, R. et al. Comparison
of transgenic and adenovirus hACE2 mouse models for SARS-CoV-2 infection. Preprint at [

HYPERLINK "https://www.biorxiv.org/content/10.1101/2020.07.06.190066v1"] [Author: OK?] (2020). [HYPERLINK

"https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=32676603&dopt=Abstract"] [IF "x_3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id=\"b15\" ""]15. Winkler, E. S. et al. SARS-CoV-2 infection in the lungs of human ACE2 transgenic mice causes severe inflammation, immune cell infiltration, and compromised respiratory function. Preprint at [HYPERLINK "https://www.biorxiv.org/content/10.1101/2020.07.09.196188v1"] [Author: OK?] (2020). [IF "x_3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF DOCPROPERTY "x_t" < N ">" " ""]

Formatted: German (Germany)

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id=\"b16\" ""]16. Zheng, J. et al. K18-hACE2 Mice for studies of COVID-19 treatments and pathogenesis including anosmia. Preprint at https://www.biorxiv.org/content/10.1101/2020.08.07.242073v1 [Author: OK?] (2020). [IF "x_3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi=\"10.1038/nmicrobiol.2016.226\" _id=\"b17\" _issn=\"2058-5276\" _pubmed=\"27892925\" ""]17. Cockrell, A. S. et al. A mouse model for MERS coronavirus-induced acute respiratory distress syndrome. *Nat. Microbiol.* **2**, 16226 [Author: OK?](2017[Author: OK?]). [IF "x_3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1073/pnas.1619109114\" _id=\"b18\" _issn=\"1091-6490\"
_pubmed=\"28348219\" "" "]18. Li, K. et al. Mouse-adapted MERS coronavirus causes
lethal lung disease in human DPP4 knockin mice. *Proc. Natl Acad. Sci. USA* **114**, E3119–
E3128 (2017). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1073/pnas.1510830112\" _id=\"b19\" _issn=\"1091-6490\"
_pubmed=\"26124093\" "" "]19. Pascal, K. E. et al. Pre- and postexposure efficacy of fully
human antibodies against Spike protein in a novel humanized mouse model of MERS-CoV
infection. *Proc. Natl Acad. Sci. USA* **112**, 8738–8743 (2015). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1016/j.chom.2020.05.020\" _id=\"b20\" _issn=\"1934-6069\"
_pubmed=\"32485164\" "" "]20. Sun, S.-H. et al. A mouse model of SARS-CoV-2
infection and pathogenesis. *Cell Host Microbe* **28**, 124–133.e4 (2020). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1073/pnas.1323279111\" _id=\"b21\" _issn=\"1091-6490\"
_pubmed=\"24599590\" "" "]21. Zhao, J. et al. Rapid generation of a mouse model for
Middle East respiratory syndrome. *Proc. Natl Acad. Sci. USA* **111**, 4970–4975 (2014).
HYPERLINK

"https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=24599590&dopt=Abstract"] [IF "x_-3" " IF DOCPROPERTY "x_t" < N "<" QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " "]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "<" QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1016/j.cell.2020.06.011\" _id=\"b22\" _issn=\"1097-4172\"
_pubmed=\"32553273\" "]22. Hassan, A. O. et al. A SARS-CoV-2 infection model in
mice demonstrates protection by neutralizing antibodies. *Cell* **182**, 744–753.e4 (2020). [IF "x_-
3" " IF DOCPROPERTY "x_t" < N "<" QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " "]

Formatted: Spanish (Spain)

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "<" QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b23\" "]23. Israelow, B. et al. Mouse model of SARS-CoV-2 reveals
inflammatory role of type I interferon signaling. *J. Exp. Med.* **217**, e20201241 [Author: OK
(published version: <https://rupress.org/jem/article/217/12/e20201241/151999/Mouse-model-of-SARS-CoV-2-reveals-inflammatory?>)] (2020). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "<" QUOTE "unknown" " IF DOCPROPERTY "x_t" < N ">" " "]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "<" QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1093/infdis/jix562\" _id=\"b24\" _issn=\"1537-6613\"
_pubmed=\"29087482\" "]24. Spengler, J. R. et al. Severity of disease in humanized
mice infected with Ebola virus or Reston virus is associated with magnitude of early viral
replication in liver. *J. Infect. Dis.* **217**, 58–63 (2018) [Author: OK?]. [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "<" QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " "]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "<" QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " "

" QUOTE " _doi="10.1128/JVI.03085-13" _id="b25" _issn="1098-5514"
_pubmed="24335303" "]25. Frias-Staheli, N. et al. Utility of humanized BLT mice for
analysis of dengue virus infection and antiviral drug testing. *J. Virol.* **88**, 2205–2218 (2014).

[IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1016/j.celrep.2020.01.026" _id="b26" _issn="2211-1247"
_pubmed="32049004" "]26. Price, A. et al. Transcriptional correlates of tolerance and
lethality in mice predict Ebola virus disease patient outcomes. *Cell Rep.* **30**, 1702–1713.e6
(2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1126/science.1259595" _id="b27" _issn="1095-9203"
_pubmed="25359852" "]27. Rasmussen, A. L. et al. Host genetic diversity enables
Ebola hemorrhagic fever pathogenesis and resistance. *Science* **346**, 987–991 (2014). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1371/journal.pgen.1005504" _id="b28" _issn="1553-7404"
_pubmed="26452100" "]28. Gralinski, L. E. et al. Genome Wide identification of
SARS-CoV susceptibility loci using the collaborative cross. *PLoS Genet.* **11**, e1005504 (2015).
[IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY

"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
 " QUOTE " _id="b29\" "" "]29. Feldstein, L. R. et al. Multisystem inflammatory syndrome
 in U.S. children and adolescents. *N. Engl. J. Med.* **383**, 334–346 [Author: OK?](2020). [IF
 "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
 "unknown" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
 AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
 "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
 " QUOTE " _doi="10.1056/NEJMoa2015432\" _id="b30\" _issn="1533-4406\"
 _pubmed="32437596\" "" "]30. Ackermann, M. et al. Pulmonary vascular endothelialitis,
 thrombosis, and angiogenesis in Covid-19. *N. Engl. J. Med.* **383**, 120–128 (2020). [IF "x_-3"
 " IF DOCPROPERTY "x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY
 "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
 AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
 "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
 " QUOTE " _doi="10.3389/fimmu.2019.02329\" _id="b31\" _issn="1664-3224\"
 _pubmed="31632404\" "" "]31. Miao, J., Chard, L. S., Wang, Z. & Wang, Y. Syrian
 hamster as an animal model for the study on infectious diseases. *Front. Immunol.* **10**, 2329
 (2019). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
 "jm" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
 AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
 "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
 " QUOTE " _doi="10.1128/JVI.79.1.503-511.2005\" _id="b32\" _issn="0022-538X\"
 _pubmed="15596843\" "" "]32. Roberts, A. et al. Severe acute respiratory syndrome
 coronavirus infection of golden Syrian hamsters. *J. Virol.* **79**, 503–511 (2005). [IF "x_-3"
 " IF DOCPROPERTY "x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY
 "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
 AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY

"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id="b33\" "" "]33. Iwatsuki-Horimoto, K. et al. Syrian hamster as an animal
model for the study of human influenza virus infection. *J. Virol.* **92**, e01693-17 [Author:
OK?](2018).[IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"unknown" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1016/B978-0-12-398342-8.00003-3\" _id="b34\" _issn="2162-
5557\" _pubmed="23021242\" "" "]34. Wold, W. S. M. & Toth, K. Chapter three – Syrian
hamster as an animal model to study oncolytic adenoviruses and to evaluate the efficacy of
antiviral compounds. *Adv. Cancer Res.* **115**, 69–92 (2012). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id="b35\" "" "]35. Chan, J. F.-W. et al. Simulation of the clinical and
pathological manifestations of coronavirus disease 2019 (COVID-19) in golden Syrian hamster
model: implications for disease pathogenesis and transmissibility. *Clin. Infect. Dis.*, ciaa325
(2020).[IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"unknown" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id="b36\" "" "]36. Boudewijns, R. et al. STAT2 signaling as double-edged
sword restricting viral dissemination but driving severe pneumonia in SARS-CoV-2 infected
hamsters. Preprint at <https://www.biorxiv.org/content/10.1101/2020.04.23.056838v1> [Author:
OK?](2020).[IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"unknown" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY

"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b37\""" "]37. Osterrieder, N. et al. Age-dependent progression of
SARS-CoV-2 infection in Syrian hamsters. *Viruses* **12**, 779 [Author: OK (published version:
[HYPERLINK "https://www.mdpi.com/1999-4915/12/7/779"])?] (2020). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "</ QUOTE "unknown" " IF DOCPROPERTY
"x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b38\" _issn=\"1091-6490\" _pubmed=\"32571934\""" "]38. Imai, M. et
al. Syrian hamsters as a small animal model for SARS-CoV-2 infection and countermeasure
development. *Proc. Natl Acad. Sci. USA* **117**, 16587–16595 (2020). [HYPERLINK
"https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3257
1934&dopt=Abstract"] [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1038/s41586-020-2342-5\" _id=\"b39\" _issn=\"1476-4687\"
_pubmed=\"32408338\""" "]39. Sia, S. F. et al. Pathogenesis and transmission of SARS-
CoV-2 in golden hamsters. *Nature* **583**, 834–838 (2020). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " """]

A comprehensive description of SARS-CoV-2 pathogenesis in the Syrian hamster model and its applicability for transmission studies.

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b40\""" "]40. Kaptein, S. J. et al. Antiviral treatment of SARS-CoV-2-
infected hamsters reveals a weak effect of favipiravir and a complete lack of effect for
hydroxychloroquine. Preprint at
<https://www.biorxiv.org/content/10.1101/2020.06.19.159053v1> [Author: OK?] (2020). [IF

Formatted: German (Germany)

"x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE

"unknown" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b41\" "" "]41. Driouich, J.-S. et al. Favipiravir and severe acute
respiratory syndrome coronavirus 2 in hamster model. Preprint at
<https://www.biorxiv.org/content/10.1101/2020.07.07.191775v1> [Author: OK?] (2020).[IF
"x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"unknown" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b42\" "" "]42. Sanchez-Felipe, L. et al. A single-dose live-attenuated
YF17D-vectored SARS-CoV2 vaccine candidate. Preprint at
<https://www.biorxiv.org/content/10.1101/2020.07.08.193045v1> [Author: OK?] (2020).[IF
"x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"unknown" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b43\" _issn=\"1095-9203\" _pubmed=\"32540903\" "" "]43. Rogers, T. F.
et al. Isolation of potent SARS-CoV-2 neutralizing antibodies and protection from disease in a
small animal model. *Science* **369**, 956–963 (2020).[HYPERLINK
"https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3254
0903&dopt=Abstract"] [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1016/j.virol.2015.03.017\" _id=\"b44\" _issn=\"1096-0341\"

pubmed="25816764" "j44. Enkirch, T. & von Messling, V. Ferret models of viral pathogenesis. *Virology* **479–480**, 259–270 (2015). [IF "x-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi="10.1038/d41586-020-00698-x" _id="b45" _issn="1476-4687" _pubmed="32152596" "j45. Callaway, E. Labs rush to study coronavirus in transgenic animals – some are in short supply. *Nature* **579**, 183 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi="10.1016/j.cell.2020.04.026" _id="b46" _issn="1097-4172" _pubmed="32416070" "j46. Blanco-Melo, D. et al. Imbalanced host response to SARS-CoV-2 drives development of COVID-19. *Cell* **181**, 1036–1045.e9 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF DOCPROPERTY "x_t" < N ">" " ""]

A comparative pathogenesis study that compares host immune responses and pathophysiology hallmarks of SARS-CoV-2 infections in several animal models.

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi="10.1016/j.chom.2020.03.023" _id="b47" _issn="1934-6069" _pubmed="32259477" "j47. Kim, Y.-I. et al. Infection and rapid transmission of SARS-CoV-2 in ferrets. *Cell Host Microbe* **27**, 704–709.e2 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY

"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id="b48\" "" "]48. Ryan, K. A. et al. Dose-dependent response to infection with SARS-CoV-2 in the ferret model: evidence of protection to re-challenge. Preprint at <https://www.biorxiv.org/content/10.1101/2020.05.29.123810v1> [Author: OK?] (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE "unknown" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "bok" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id="b49\" "" "]49. Schlottau, K. et al. Experimental transmission studies of SARS-CoV-2 in fruit bats, ferrets, pigs and chickens. Preprint at [HYPERLINK "https://ssrn.com/abstract=3578792"] [Author: OK?] (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE "bok" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi="10.1126/science.abb7015\" _id="b50\" _issn="1095-9203\" _pubmed="32269068\" "" "]50. Shi, J. et al. Susceptibility of ferrets, cats, dogs, and other domesticated animals to SARS-coronavirus 2. *Science* **368**, 1016–1020 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

The infection profile of SARS-CoV-2 in ferrets as well as other species, with implications for public health.

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id="b51\" "" "]51. Richard, M. et al. SARS-CoV-2 is transmitted via contact and via the air between ferrets. *Nat. Commun.* **11**, 3496 [Author: OK (published version: <https://www.nature.com/articles/s41467-020-17367-2>)] (2020). [IF "x_-3"

" IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1038/s41586-020-2324-7\" _id=\"b52\" _issn=\"1476-4687\"
_pubmed=\"32396922\" "" "]52. Munster, V. J. et al. Respiratory disease in rhesus
macaques inoculated with SARS-CoV-2. *Nature* **585**, 268–272 [Author: OK?](2020). [IF
"x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

The pathogenesis of SARS-CoV-2 infection in the rhesus macaque model.

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1126/science.abb7314\" _id=\"b53\" _issn=\"1095-9203\"
_pubmed=\"32303590\" "" "]53. Rockx, B. et al. Comparative pathogenesis of COVID-19,
MERS, and SARS in a nonhuman primate model. *Science* **368**, 1012–1015 (2020). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

The comparative pathogenesis of SARS-CoV-2 and other highly pathogenic coronaviruses in the non-human primate model.

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1126/science.abc4776\" _id=\"b54\" _issn=\"1095-9203\"
_pubmed=\"32434946\" "" "]54. Chandrashekar, A. et al. SARS-CoV-2 infection protects
against rechallenge in rhesus macaques. *Science* **369**, 812–817 (2020). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

This study provides evidence that natural infection protects against SARS-CoV-2 rechallenge in non-human primates.

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b55\" _pubmed=\"32511338\" "]55. Finch, C. L. et al. Characteristic and
quantifiable COVID-19-like abnormalities in CT- and PET/CT-imaged lungs of SARS-CoV-2-
infected crab-eating macaques (*Macaca fascicularis*). Preprint at
<https://www.biorxiv.org/content/10.1101/2020.05.14.096727v1> [Author: OK?] (2020). [IF
"x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF DOCPROPERTY
"x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1002/ame2.12108\" _id=\"b56\" _issn=\"2576-2095\"
_pubmed=\"32318665\" "]56. Yu, P. et al. Age-related rhesus macaque models of
COVID-19. *Animal Model. Exp. Med.* **3**, 93–97 (2020). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "< QUOTE "jrn" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1126/science.abc6284\" _id=\"b57\" _issn=\"1095-9203\"
_pubmed=\"32434945\" "]57. Yu, J. et al. DNA vaccine protection against SARS-CoV-2
in rhesus macaques. *Science* **369**, 806–811 (2020). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "< QUOTE "jrn" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1126/science.abc1932\" _id=\"b58\" _issn=\"1095-9203\"
_pubmed=\"32376603\" "]58. Gao, Q. et al. Development of an inactivated vaccine
candidate for SARS-CoV-2. *Science* **369**, 77–81 (2020). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "< QUOTE "jrn" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b59\" _issn=\"1476-4687\" _pubmed=\"32731257\" "]59. Mercado, N.
B. et al. Single-shot Ad26 vaccine protects against SARS-CoV-2 in rhesus macaques. *Nature* [
HYPERLINK "https://doi.org/10.1038/s41586-020-2607-z"] [Author: OK?](2020).[
HYPERLINK
"https://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3273
1257&dopt=Abstract"] [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1038/s41586-020-2608-y\" _id=\"b60\" _issn=\"1476-4687\"
_pubmed=\"32731258\" "]60. van Doremalen, N. et al. ChAdOx1 nCoV-19 vaccine
prevents SARS-CoV-2 pneumonia in rhesus macaques. *Nature* https://doi.org/10.1038/s41586-
020-2608-y [Author: OK?](2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N
"< QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id=\"b61\" "]61. Corbett, K. S. et al. Evaluation of the mRNA-1273
vaccine against SARS-CoV-2 in nonhuman primates. *N. Engl. J. Med.*,
https://doi.org/10.1056/NEJMoa2024671 (2020). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "< QUOTE "unknown" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1016/j.virusres.2007.03.012\" _id=\"b62\" _issn=\"0168-1702\"
_pubmed=\"17451830\" "]62. Shi, Z. & Hu, Z. A review of studies on animal reservoirs
of the SARS coronavirus. *Virus Res.* **133**, 74–87 (2008). [IF "x_-3" " IF DOCPROPERTY
"x_t" < N "< QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1128/JCM.42.7.3196-3206.2004\" _id="b63\" _issn="0095-1137\"
_pubmed="15243082\" "" "]63. Gillim-Ross, L. et al. Discovery of novel human and
animal cells infected by the severe acute respiratory syndrome coronavirus by replication-
specific multiplex reverse transcription-PCR. *J. Clin. Microbiol.* **42**, 3196–3206 (2004). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "</ QUOTE "jrm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.2807/1560-7917.ES.2020.25.23.2001005\" _id="b64\" _issn="1560-
7917\" _pubmed="32553059\" "" "]64. Oreshkova, N. et al. SARS-CoV-2 infection in
farmed minks, the Netherlands, April and May 2020. *Euro Surveill.* **25**, 1016 (2020). [IF "x_-
3" " IF DOCPROPERTY "x_t" < N "</ QUOTE "jrm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1056/NEJMc2013400\" _id="b65\" _issn="1533-4406\"
_pubmed="32402157\" "" "]65. Halfmann, P. J. et al. Transmission of SARS-CoV-2 in
domestic cats. *N. Engl. J. Med.* **383**, 592–594 (2020) [Author: OK?]. [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "</ QUOTE "jrm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _id="b66\" "" "]66. Bosco-Lauth, A. M. et al. Pathogenesis, transmission and
response to re-exposure of SARS-CoV-2 in domestic cats. Preprint at
<https://www.biorxiv.org/content/10.1101/2020.05.28.120998v1> [Author: OK?] (2020). [IF

"x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE

"unknown" " IF DOCPROPERTY "x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.3201/eid1103.040824\" _id=\"b67\" _issn=\"1080-6040\"
_pubmed=\"15757562\" "" "]67. Chen, W. et al. SARS-associated coronavirus transmitted
from human to pig. *Emerg. Infect. Dis.* **11**, 446–448 (2005). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.3201/eid1002.030677\" _id=\"b68\" _issn=\"1080-6040\"
_pubmed=\"15030680\" "" "]68. Weingartl, H. M. et al. Susceptibility of pigs and chickens
to SARS coronavirus. *Emerg. Infect. Dis.* **10**, 179–184 (2004). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1038/s41586-018-0010-9\" _id=\"b69\" _issn=\"1476-4687\"
_pubmed=\"29618817\" "" "]69. Zhou, P. et al. Fatal swine acute diarrhoea syndrome
caused by an HKU2-related coronavirus of bat origin. *Nature* **556**, 255–258 (2018). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " """]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.12688/f1000research.22149.3\" _id=\"b70\" _issn=\"2046-1402\"
_pubmed=\"32419926\" "" "]70. Veljkovic, V., Vergara-Alert, J., Segalés, J. & Paessler, S.

Use of the informational spectrum methodology for rapid biological analysis of the novel coronavirus 2019-nCoV: prediction of potential receptor, natural reservoir, tropism and therapeutic/vaccine target. *F1000Res*. **9**, 52 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi=\"10.2807/1560-7917.ES.2020.25.25.2001122\" _id=\"b71\" _issn=\"1560-7917\" _pubmed=\"32613937\" "" "]71. Barr, I. G., Rynehart, C., Whitney, P. & Druce, J. SARS-CoV-2 does not replicate in embryonated hen's eggs or in MDCK cell lines. *Euro Surveill.* **25**, 737 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi=\"10.3201/eid1005.030827\" _id=\"b72\" _issn=\"1080-6040\" _pubmed=\"15200830\" "" "]72. Swayne, D. E. et al. Domestic poultry and SARS coronavirus, southern China. *Emerg. Infect. Dis.* **10**, 914–916 (2004). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi=\"10.1038/nm.3985\" _id=\"b73\" _issn=\"1546-170X\" _pubmed=\"26552008\" "" "]73. Menachery, V. D. et al. A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence. *Nat. Med.* **21**, 1508–1513 (2015). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrn" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " "

" QUOTE " _doi="10.1073/pnas.1517719113" _id="b74" _issn="1091-6490"
_pubmed="26976607" "]74. Menachery, V. D. et al. SARS-like WIV1-CoV poised for
human emergence. *Proc. Natl Acad. Sci. USA* **113**, 3048–3053 (2016). [IF "x_-3"
" IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1126/science.1118391" _id="b75" _issn="1095-9203"
_pubmed="16195424" "]75. Li, W. et al. Bats are natural reservoirs of SARS-like
coronaviruses. *Science* **310**, 676–679 (2005). [IF "x_-3" " IF DOCPROPERTY "x_t" < N
"< QUOTE "jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.1038/s41591-020-0820-9" _id="b76" _issn="1546-170X"
_pubmed="32284615" "]76. Andersen, K. G., Rambaut, A., Lipkin, W. I., Holmes, E.
C. & Garry, R. F. The proximal origin of SARS-CoV-2. *Nat. Med.* **26**, 450–452 (2020). [IF
"x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF DOCPROPERTY
"x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi="10.3390/v10120727" _id="b77" _issn="1999-4915"
_pubmed="30572566" "]77. van Doremalen, N. et al. SARS-like coronavirus WIV1-
CoV does not replicate in Egyptian fruit bats (*Rousettus aegyptiacus*). *Viruses* **10**, 727 (2018).
[IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "

" QUOTE " _id="b78\" _pubmed="32511403\" "]78. Han, Y. et al. Identification of candidate COVID-19 therapeutics using hPSC-derived lung organoids. Preprint at <https://www.biorxiv.org/content/10.1101/2020.05.05.079095v1> [Author: OK?] (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id="b79\" "]79. Si, L. et al. Human organs-on-chips as tools for repurposing approved drugs as potential influenza and COVID19 therapeutics in viral pandemics. Preprint at <https://www.biorxiv.org/content/10.1101/2020.04.13.039917v1> [Author: OK?] (2020).[IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _id="b80\" "]80. Zhai, X. et al. Comparison of severe acute respiratory syndrome coronavirus 2 spike protein binding to ACE2 receptors from human, pets, farm animals, and putative intermediate hosts. *J. Virol.* **94**, 1199 (2020).[IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "unknown" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF = AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY "x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" " " QUOTE " _doi="10.1073/pnas.2010146117\" _id="b81\" _pubmed="32511356\" "]81. Damas, J. et al. Broad host range of SARS-CoV-2 predicted by comparative and structural analysis of ACE2 in vertebrates. *Proc. Natl Acad. Sci. USA* **117**, 22311–22322 [Author: OK (published version: [HYPERLINK "https://www.pnas.org/content/117/36/22311"])](2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jrm" " IF DOCPROPERTY "x_t" < N ">" " ""]

[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1038/s41586-020-2423-5\" _id=\"b82\" _issn=\"1476-4687\"
_pubmed=\"32516797\" "" "]82. Williamson, B. N. et al. Clinical benefit of remdesivir in
rhesus macaques infected with SARS-CoV-2. *Nature* **585**, 273–276 (2020) [Author: OK?].
[IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " """]
[IF "x_+3" " IF DOCPROPERTY "x_t" < N "< QUOTE "jm" " IF =
AND(COMPARE DOCPROPERTY "x_t" < N , COMPARE DOCPROPERTY
"x_a" < N) = 1 " QUOTE "" " IF DOCPROPERTY "x_t" < N ">" "
" QUOTE " _doi=\"10.1126/science.abb8923\" _id=\"b83\" _issn=\"1095-9203\"
_pubmed=\"32385100\" "" "]83. Graham, B. S. Rapid COVID-19 vaccine development.
Science **368**, 945–946 (2020). [IF "x_-3" " IF DOCPROPERTY "x_t" < N "</ QUOTE
"jm" " IF DOCPROPERTY "x_t" < N ">" " """]

Table 1 | SARS-CoV-2 infection in humans and in animal models

| Trait | Organism |
|--|--|
| Virus replication | |
| Upper respiratory tract | Humans, mice, ferrets, non-human primates, mink, cats and bats |
| Lower respiratory tract | Humans, mice, hamsters, ferrets and non-human primates |
| Other organs | Humans (GI tract, CNS and kidney), hACE2 mice (CNS), hamsters, ferrets and non-human primates (GI tract) |
| Clinical signs | |
| Fever | Human and ferrets |
| Nasal discharge | Humans and ferrets |
| Laboured breathing | Humans and hamsters |
| Pneumonia | |
| Bilateral lung involvement | Humans, hamsters and non-human primates |
| Ground-glass opacities | Humans, hamsters and non-human primates |
| Focal oedema and inflammation | Humans, hamsters, ferrets and non-human primates |
| ARDS | Humans |
| Transmission | |
| Immunology | Humans, hamsters, ferrets, cats and bats |
| Seroconversion | Humans, mice, hamsters, ferrets, non-human primates and bats |
| Neutralizing antibody titres | Humans, mice, hamsters, ferrets and non-human primates |
| T cell immunity | Humans, mice, ferrets and non-human primates |
| Pro-inflammatory cytokines | Humans, mice and non-human primates |
| Demographics | |
| More severe disease in males | Humans, hamsters |
| More severe disease in elderly individuals | Humans, hamsters and non-human primates |
| Comparison of SARS-CoV-2 infection in animal models and humans. CNS, central nervous system; GI, gastro-intestinal; ARDS, acute respiratory distress syndrome. [Author: table was rekeyed from drawing objects into a table; please check carefully to ensure all information was correctly transferred] | |

Publisher: NPG; Journal: Nature: Nature; Article Type: Review
MS nr: 2020-06-10271C

Acknowledgements The content of this article represents the opinions of the co-authors, and does not reflect the views or policies of any of their corresponding [Author: OK?] institutions.

Author contributions All co-authors contributed to writing this manuscript.

Competing interests The authors declare no competing interests.

Additional information

Supplementary information is available for this paper at

Correspondence and requests for materials should be addressed to A.M.H.-R. or D.H.B.

Peer review information *Nature* thanks Linda Saif and the other, anonymous, reviewer(s) for their contribution to the peer review of this work.

Reprints and permissions information is available at www.nature.com/reprints.

Publisher's note: Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.