

Originalzitate aus “Epidemien des Satthabens”: (gelistet nach Nummer der Fußnote)

- 3: Philosophy teaches us to feel uncertain about the things that seems to us self-evident. Propaganda, on the other hand, teaches us to accept as self-evident matters about which it would be reasonable to suspend our judgement or to feel doubt.
- 5: There is a consensus that mass psychogenic illness is a social phenomenon that strikes otherwise healthy people, that it is transmitted most efficiently in cohesive social groups, such as schools and workplaces, and that it is more often seen in populations that are subject to high levels of psychological, social, or political stress. There is also a consensus that affected people experience “real” symptoms – symptoms that are not imagined or “all in the head.
- 6: In sociology and psychology, mass hysteria (also known as mass psychogenic illness, collective hysteria, group hysteria, or collective obsessional behavior) is a phenomenon that transmits collective illusions of threats, whether real or imaginary, through a population in society as a result of rumors and fear (memory acknowledgement). [...] A common type of mass hysteria occurs when a group of people believe they are suffering from a similar disease or ailment, sometimes referred to as mass psychogenic illness or epidemic hysteria.
- 7: Collective delusions are typified as the spontaneous, rapid spread of false or exaggerated beliefs within a population at large, temporarily affecting a particular region, culture, or country.
- 8: In short, all mass hysterias are collective delusions as they involve false or exaggerated beliefs. [...] Many factors contribute to the formation and spread of collective delusions and hysterical illness: the mass media; rumors; extraordinary anxiety or excitement; cultural beliefs and stereotypes; the social and political context; and reinforcing actions by authorities such as politicians, or institutions of social control such as the police or military.
- 9: All psychic epidemics are characterized by hysterical manifestations, the contents of which are determined by the culture in which they occur and by the prevailing attitudes.
- 10: Between the 15th and 19th centuries, exceedingly strict Christian religious orders appeared in some European convents. Coupled with a popular belief in witches and demons, this situation triggered dozens of epidemic motor hysteria outbreaks among nuns, who were widely believed to have been demonically possessed. Episodes typically lasted months and in several instances were endured in a waxing and waning fashion for years.
- 27: But such was the darkness of that day, the tortures and lamentations of the afflicted, and the power of former precedents, that we walked in the clouds, and could not see our way. And we have most cause to be humbled for error on that hand, which cannot be retrieved.
- 31: We were in a way to have cleared the land of these.
- 32: The kingdom of Satan was advanced and the Lord have mercy on this country.
- 37: Mass psychogenic illness describes a syndrome of subjective symptomatology which develops suddenly and spreads contagiously in a well defined population (workplace, school) in the absence of an identifiable toxic agent. The outbreak is usually precipitated by some form of psychological stress, it occurs primarily in females, and affected individuals attribute their illness to some mysterious agent such as a bug bite (Kerchhoff and Back, 1968) or strange odor (Stahl and Lebedun, 1974).
- 38: There have been many reports in the medical literature of similar outbreaks, most often in closely congregated groups in enclosed settings, such as schools, factories, hospitals, and army barracks. Many more outbreaks have not been reported.
- 43: The present results parallel previous reports of industrial mass psychogenic illness. The illness develops suddenly and spreads contagiously through the plant affecting primarily female workers and seems to be precipitated by high levels of psychological stress on the job and at home. To attribute a psychogenic cause to the outbreak in no way minimizes the clinical significance of the illness. The symptoms are real and the workers are sick. However, the above pattern of results does appear to distinguish mass psychogenic illness from cases of true toxic exposure.
- 44: It is very difficult— if not impossible — to prove beyond any doubt that a toxic exposure has not simply escaped detection.
- 45: In some cases a physical or chemical cause for the illness may not be obvious. [...] Under these conditions the illness remains a mystery and the workplace becomes a breeding ground for anxiety, rumor, confusion, and fear. [...] Having exhausted all possible physical explanations for the illness episode, investigators may turn to a psychological interpretation of the outbreak, explaining it in terms of mass hysteria or mass anxiety. This conclusion is always a tenuous one, being based primarily on the absence of physical evidence rather than the presence of a clearly defined set of precipitating psychosocial conditions. This ambivalence is understandable given the long and controversial history of the mind-body issue in general, and the concept of “hysteria” in particular. Despite these semantic and theoretical pitfalls, the fact remains that the workplace is as much a psychosocial environment as it is a physical one.
- 46: As the DSM-IV-TR, [...] further succinctly explains, psychodynamic theory (derived from Freud) holds that “the individual's somatic symptom represents a symbolic resolution of an unconscious psychological conflict, reducing anxiety and serving to keep the conflict out of awareness.” In other words, conversion symptoms convert dissociated unconscious feelings or impulses into physical symptoms. Strange but true. This conversion occurs unconsciously, which is to say that the person experiencing symptoms is unaware that this is happening. Unconscious of the psychological significance of their symptoms. This is because conversion is an unconscious defense mechanism. For them, such symptoms seem to appear out of nowhere, and are experienced as totally alien to themselves, completely out of character, and not subject to their own will.
- 47: I had been mistaken in thinking that I could see clearly into my heart.
- 49: The flow of the epidemic may pass through several phases. It may begin when a few socially isolated women exhibit a form of behavior that is rather dramatic, so dramatic that it cannot help but be noticed. With the observation of these first few cases, a reasonable explanation evolves that is meaningful in that setting. Both the visibility of the illness and the reasonableness of its explanation increases as the behavior pattern spreads to women who are more socially integrated, and the contagion then follows rapidly along sociometric channels. Finally, though, the cases become so numerous that the threat becomes visible to everyone in the situation and the credibility of the explanation increases. As almost everyone begins to accept the reality of the threat, cases begin to occur throughout the population, and the pattern becomes a kind of “crowd response”.

52: Emotional distress due to intrapsychic or interpersonal conflict can give rise to physiological disturbances with a wide range of somatic symptoms. Physical symptoms then may simply be viewed as an index of psychosocial problems. Psychodynamic theory suggests that this psychogenic causation of physical illness can occur through mediating mechanisms that do not involve the individual's awareness or acknowledgment of the conflict or its impact on health.

55: Katie told me that she wouldn't wish tics on anyone, but if it had to be someone, she was glad she was going through it with her best friend.

57: We clearly need to know very much more about the mechanisms whereby infectious ideas are transmitted and more about the personality of those affected in an epidemic. We do know that epidemics occur most frequently in unstable conditions where emotions are most inflammable.

58: The collaborative investigation, whose report was released two weeks later, on January 31, seems to have been quite thorough. Epidemiologic methods were employed to check out family medical history, significant life stressors, past and current medications, recent illness, drug use, and possible common exposures to toxic materials. Additionally, investigators searched biomedical literature for possible associations between environmental chemical exposures and the development of neurological tics. Three drinking water samples taken from the school building were tested for toxins that included 58 volatile organic chemicals, 63 separate pesticides and herbicides, and 11 metals. Data on indoor air quality and mold were also analyzed. Investigators considered the possibility that the Gardasil vaccine might have been associated with the girls' neurological symptoms.

59: None of these tests revealed environmental or infectious disease factors.

60: Based on the treating physicians' diagnoses of conversion disorder and the epidemiologic and environmental investigation, it was concluded that the cases did not have common infectious or environmental causes.

61: While outbreaks of psychiatric or neurologic disease without clear explanation are unusual, similar cases have been documented. The conversion disorder/mass psychogenic illness conclusion is based on individual medical evaluations, the presence of significant life stressors, and demographic characteristics of the cases.

64: A milestone of mass psychogenic illness where the primary agent of spread will be the Internet and social media networks.

65: Within the first weeks of national news coverage, so many toxins had been proposed as potential sources of the illness that commentators began to dismiss all such claims as too muddled for consideration.

66: Manifest in the reporting on Le Roy was how MPI's features, and its general psychic origin, made some doctors (and most laypeople) uncomfortable.

69: Many personal factors are linked to the tendency to experience mental distress chiefly as physical symptoms and to remain unaware of any causal connection between the two. Somatizing patients often have great difficulty in acknowledging personal feelings, conflicts, or losses. Some regard emotional difficulties as a sign of "weakness" or "lack of faith." If psychosocial problems are acknowledged at all, their possible effects on symptoms are often vigorously denied despite clear temporal relationships.

70: To be sick is seen as "beyond one's own control," permitting the sufferer to give up other responsibilities in order to look after his or her health. Somatization may thereby help patients avoid facing their unhappy predicaments [...]. the sick role may become an attractive way of life.

71: Wherever primary care samples have been studied, somatization has been found to be extremely common. For example, in a study of 700 patients attending family medicine clinics in Montreal on a self-initiated visit for a new symptom or problem, we found that more than 75% of the patients with major depression, panic disorder, or milder forms of mixed depression-anxiety made somatic clinical presentations; 17% of the patients had a lifetime history of multiple medically unexplained symptoms (subsyndromal somatization disorder denoted SSI 4,6 (5)) and 8% had high levels of illness worry despite no serious medical illness, suggestive of hypochondriasis.

72: In a tiny, unknown New York town, something remarkable is happening. Something that, in this rabidly anti-Freudian, anti-Jungian, antipsychodynamic, cognitively, behaviorally and pharmacologically indoctrinated climate of contemporary psychology and psychiatry, shouldn't be happening. But it is.

73: The Le Roy case reinforces how humans exist and act within culturally constituted behavioral environments. This is not to say that we create the world around us out of nothing, but rather that we take the elements of the world we experience and imbue them with specific meanings, then behave with reference to those meanings.

74: Illness in which physical symptoms, produced by the action of the unconscious mind, are defined by the individual as evidence of organic disease and for which medical help is sought.

75: Recent psychotherapy research has investigated the physical reactions of therapists to their clients [...]. They are collectively known as body-centred counter-transference. [...] This is the process by which a therapist holds an affect physically and responds unconsciously through their body. The symptoms of body-centred counter-transference include: nausea, headaches, [...] genital pain, muscle tension, losing voice, aches in joints, stomach disturbance, and numbness.

76: Psychological factors are seen as having some part in the onset and course of all medical conditions.

79: Nonsense of talking about disease as either mental or physical, or with somatic or psychological symptoms.

80: The scientific study of the relation among psychological, social and biological factors in determining health and disease.

82: Not only have these outbreaks spanned time and culture, but the symptoms and the behaviors associated with them have differed tremendously. Where one culture may typically have mass illness episodes characterized by symptoms of nausea, headaches and dizziness, other cultures may have outbreaks wherein the affected individuals display common hallucinations or violent behaviors.

83: Diseases are an ideal ground for mass hysteria to develop.

85: The threat that triggers mass psychogenic reactions is associated with the preoccupations that dominate the affected population. Consequently, although similar symptoms may occur through time and space, each case should be addressed specifically to the sociocultural setting within which it transpired. For instance, the symptoms typically presented during threats of bioterrorism – difficulty in breathing and swallowing, dizziness, fainting –

were attributed to demonic possession during a hysteria epidemic in Taiwan in 2000. Environmental toxicity and infectious disease are arguably the principal fears behind epidemic hysterias among 'Western' populations today.

86: Recent research, however, suggests that somatization is ubiquitous—although its prevalence and specific features vary considerably across cultures, the processes of focusing on, amplifying, and clinically presenting somatic distress are universal and somatic symptoms are the most common clinical expression of emotional distress worldwide.

88: Several centuries ago, such suddenly stricken individuals would have been deemed victims of demonic possession, and treated with exorcism. Or witches, and burned at the stake, tortured or drowned to death. Their strange symptoms were seen as supernatural. How else could such bizarre behavior be explained by our ancestors?

89: The less sophisticated the patient regarding physiology and neurology, the more incredible, less subtle and medically implausible the presenting symptoms tend to be.

91: The hypothesis of hysteria accounts for the rapid recovery of all victims and the lack of after-effects. It explains why no "gasser" was found in spite of mobilization of local and state police and volunteers. It accounts for the fact that nothing was stolen and that dogs did not bark. The objections to the hypothesis of hysteria come from the victims themselves—quite naturally—and from others who do not realize the intensity and variety of effects which are produced by psychological forces.

92: It was apparent from the first few interviews that the victims, while they would talk about the "gassing," and their symptoms, and similar superficial matters, would not be willing to cooperate in any inquiry directed toward, for example, unconscious motivation. They had been victimized twice: once by the concatenation of factors, environmental and personal, which produced the symptoms, and later by publicity and gossip, which carried the implication that people who have hysterical attacks are more peculiar, or less sincere, than their neighbors.

93: A quick look through any textbook will convince any reader that hysterical symptoms usually are dramatic—arousing the interest of the press, with the result that an exciting uncritical story of the case appeared in the evening paper. As the news spread, other people reported similar symptoms, more exciting stories were written, and so the affair snowballed.

94: [...] half of them more-or-less sensible, though ill-informed, containing suggestions for capturing the "menace." The other half could be judged psychopathic—on the basis of ideas of self-reference, intensity of affect, and the combination of poor judgment with good vocabulary and expression. Paranoid trends were common.

95: Even now, a century after Freud, we resist recognizing that these sort of symptoms (and so many more) can be psychologically rather than neurologically caused. Unfortunately, we have regressed to a pre-Freudian Weltanschauung, throwing the Freudian baby (the unconscious) out with the bathwater (psychoanalysis). Some still consider such maladies signs of satanic possession. Others in the medical field insist that the problem must reside in faulty neurology or physiology. Bad biochemistry. A "broken brain." To admit the capacity of the unconscious or daimonic to take temporary or chronic possession of our bodies or brains is just too threatening to the ego and our precious scientific rationality. But when cutting-edge medical science fails to explain such mystifying phenomena, when all possible physiological and environmental causes have been carefully ruled out and systematically eliminated, there remains only one clear scientific conclusion: *Behold and be humbled by the awesome power of psychology. And of the unconscious.*

96: A common trigger of mass hysteria during the 20th and 21st centuries has been the fear of environmental contaminant or toxic gas from a bioterrorist or chemical warfare attack, arousing symptoms such as breathlessness, nausea, headache, dizziness, and weakness.

97: In small-scale and/or strongly religious societies [...] one threat deemed credible is witchcraft. In societies racked by intergroup conflict – for example, Palestine, Kosovo, Afghanistan, and Uganda – poisoning emerges as a credible charge to level against enemies known or suspected.

98: The more neutral term mass phenomenon seems preferable to mass hysteria, since the lay connotation of hysteria may encourage spread of the disease, especially when the media gives widespread publicity to the epidemic.

99: The correct management of a mass phenomenon requires, besides its prompt identification, a calm and authoritative approach to the affected population. Firm and immediate reassurance, based on a positive diagnosis should dispel fear and a point of the utmost importance is the use of the mass media to counter rumours about deliberate or incidental intoxication.

100: Mass psychogenic illness can be difficult to differentiate from bioterrorism, rapidly spreading infection, or acute exposure to toxic substances. Early recognition of and appropriate response to such incidents can have a substantial influence on the outcome. Epidemics of psychogenic illness often attract intense media attention and may have profound public health, social, and economic repercussions.

101: Mass hysteria is the placebo effect in reverse. People can literally make themselves ill from nothing more than an idea. [...] It's a collective stress reaction and found in normal people.

102: Parents and students fight the diagnosis as no one wants to accept that their kids were 'hysterical'.

103: It's tempting to point to these outbreaks as quirky historical events with little bearing on society today. But modern psychogenic outbreaks can be extremely costly to hospitals and ultimately the [...] healthcare system, since doctors can end up repeatedly test for an organic cause when one doesn't exist. And the rise of social media only seems to be making matters worse, because a trigger—other people experiencing a psychogenic illness, a news article on an outbreak—can spread further and faster.

104: We may be at a crossroads in the history of psychogenic illness, as the primary vector or agent of spread appears to be the internet and new technologies.

105: It's hard for me to believe that having it play out on national television is going to do anything other than make it more difficult to deal with.

110: Certain observers were of the privately expressed opinion that hysteria played a large role in this outbreak.

111: In the first there is a rapidly propagating hysterical epidemic, which produces many cases in a short period of time; the response of the medical authorities is secondary, and, though it can perhaps influence the further spread of the epidemic and the rate of recovery of those already affected, it is irrelevant to the genesis and establishment of the outbreak.[...] The outbreak seems to us to have been an uncontaminated example of mass hysteria.

112: The striking thing about the presenting symptoms of these cases is their lack of consistency. In some instances it is clear that the symptoms are characteristic of the patient as an individual rather than of a common illness. [...] all illnesses not immediately diagnosable as something else were regarded as "query polio." In our view the "epidemic" was an artefact due to an altered medical perception of the community. [...] We think that the [...] patients became a homogeneous clinical group only after admission, and that the symptoms then produced were due to a preoccupation with poliomyelitis on the part of both doctors and patients.

113: We would, however, note that how much the diagnosis is used seems to depend on how much contact the practitioner has had with the disease in its epidemic form.

114: Illness was searched for in the community and, unsurprisingly, illness was found. Among those affected it is not unlikely that there was an occasional anxiety state, for this is a common condition and the community was under stress (the threat of polio). [...] It would be wrong to term this an iatrogenic epidemic, for in our view there was no epidemic at all; the basic phenomenon was an altered medical perception of the community.

115: In cities the size of Adelaide and Copenhagen, and a state the size of New York, there would be at any moment of time enough ill or anxious people to provide a pseudoepidemic [...] The tendency of the more anxious to have any symptom checked when polio is prevalent, and the tendency of the doctors to take extra care during a polio outbreak could easily lead to the appearance of an "outbreak" of benign myalgic encephalomyelitis simultaneous with a poliomyelitis outbreak.

116: In every large community there will be found at least one physician willing to play up to his patients' psychological need for organicity (organische Störung). Thus do the caregivers themselves contribute to their patients' somatic fixations, plunging youthful and productive individuals into careers of disability. This is malpractice [...].

118: As they look back on the episode, epidemiologists and infectious disease specialists say the problem was that they placed too much faith in a quick and highly sensitive molecular test that led them astray.

Infectious disease experts say such tests are coming into increasing use and may be the only way to get a quick answer in diagnosing diseases like whooping cough, Legionnaire's, bird flu, tuberculosis and SARS, and deciding whether an epidemic is under way.

There are no national data on pseudo-epidemics caused by an overreliance on such molecular tests, said Dr. Trish M. Perl, an epidemiologist at Johns Hopkins and past president of the Society of Health Care Epidemiologists of America. But, she said, pseudo-epidemics happen all the time. "It's a problem; we know it's a problem," Dr. Perl said. "My guess is that what happened at Dartmouth is going to become more common."

Many of the new molecular tests are quick but technically demanding, and each laboratory may do them in its own way. These tests, called "home brews," are not commercially available, and there are no good estimates of their error rates. But their very sensitivity makes false positives likely, and when hundreds or thousands of people are tested, false positives can make it seem like there is an epidemic.

Yet, epidemiologists say, one of the most troubling aspects of the pseudo-epidemic is that all the decisions seemed so sensible at the time.

Almost everything about the clinical presentation of pertussis, especially early pertussis, is not very specific,' Dr. Kirkland said. That was the first problem in deciding whether there was an epidemic at Dartmouth. The second was with P.C.R., the quick test to diagnose the disease, Dr. Kretsinger said.

With pertussis, she said, "there are probably 100 different P.C.R. protocols and methods being used throughout the country," and it is unclear how often any of them are accurate. "We have had a number of outbreaks where we believe that despite the presence of P.C.R.-positive results, the disease was not pertussis," Dr. Kretsinger added.

"Because we had cases we thought were pertussis and because we had vulnerable patients at the hospital, we lowered our threshold," she said. Anyone who had a cough got a P.C.R. test, and so did anyone with a runny nose who worked with high-risk patients like infants."

Dr. Cathy A. Petti, an infectious disease specialist at the University of Utah, said the story had one clear lesson. "The big message is that every lab is vulnerable to having false positives," Dr. Petti said. "No single test result is absolute and that is even more important with a test result based on P.C.R."

119: No one is immune from mass sociogenic illness because humans continually construct reality, and the perceived danger needs only to be plausible in order to gain acceptance within a particular group.

120: Epidemics of psychogenic disease are characterised by the occurrence of symptoms that are not accompanied by findings.

121: In the last 20 years the syndrome of epidemic hysteria has been locked into the following paradox. More 'clinical' reports have been published in that time span than for the entire previous century. Yet such outbreaks were labeled under an ever wider array of designations and subject to controversy from various sources. [...] More reports yielded an expanding field of competitive explanations rather than a clearer picture.

124: Cantril found that those people who were most strongly influenced by the Orson Welles 1938 broadcast, "War of the Worlds," were likewise of low educational and economic level. No doubt it is education which is more directly related to suggestibility. Cantril found that the better educated were more critical in that they made more and better outside checks on the authenticity of the broadcast and thus were less frequently panicked.

125: The play evidently hit the latent emotion connected with the imminence of war.

126: There remains a great potential for similar hoaxes to recur when they presented with plausibility and a degree of realism for the participants.

128: The underlying causes of fantasy creation and spread are the fallibility of human perception and the tendency for persons sharing similar beliefs in group settings to yield to the majority consensus.

130: One must draw the conclusion that news affirming the existence of Ufos is welcome, but that scepticism seems to be undesirable. To believe that Ufos are real suits the general opinion, whereas disbelief is to be discouraged. This creates the impression that there is a tendency all over the world to believe in saucers and to want them to be real, unconsciously helped along by a press that otherwise has no sympathy with the phenomenon.

133 Some of their amusements would but ill comport with our terrestrial notions of decorum.

134: By this record any past calamity of their world, or predict any future one of ours?

135: In every respect an improved variety of the race.

137: Those who questioned the veracity of "The Sun" [...] were really very few indeed; and this I am forced to look upon as a far more wonderful thing than any "man-bat".

138: Immediately on the completion of the "Moon story," [...] I wrote an examination of its claims to credit, showing distinctly its fictitious character, but was astonished at finding that I could obtain few listeners, so really eager were all to be deceived, so magical were the charms of a style that served as the vehicle of an exceedingly clumsy invention.

139: The hoax was circulated to an immense extent, was translated into various languages — was even made the subject of (quizzical) discussion in astronomical societies... and was, upon the whole, decidedly the greatest hit in the way of sensation [...] ever made by any similar fiction either in America or in Europe.

140: The credulity was general. All New York rang with the wonderful discoveries of Sir John Herschel. Every body read the Sun, and every body commented on its surprising content. There were, indeed, a few sceptics; but to venture to express a doubt of the genuineness of the great lunar discoveries, was considered almost as heinous a sin as to question the truth of revelation.

141: Yale College was alive with staunch supporters. The literati — students and professors, doctors in divinity and law — and all the rest of the reading community, looked daily for the arrival of the New York mail with unexampled avidity and implicit faith. Have you seen the accounts of Sir John Herschel's wonderful discoveries? Have you read the *Sun*? Have you heard the news of the man in the Moon? These were the questions that met you every where. It was the absorbing topic of the day. Nobody expressed or entertained a doubt as to the truth of the story.

142: A grave professor of mathematics in a Virginian college told me seriously that he had *no doubt* of the truth of the whole affair!

143: Some persons, however, continued a long time to believe in the truth of the discoveries; and even to this day have not, so far as we know, entirely abandoned their faith.

144: There are very many in our city, who to the present hour, regard those revelations with more reverence and confidence than any of the established truths in physics or morals.

145: The almost universal impression and expression of the multitude was that of confident wonder and insatiable credence.

148: Who needs facts when you are peddling fear and panic. That seems to be the case with the hype that is portraying the Year 2000 computer bug as the biggest threat to civilization since Godzilla destroyed Tokyo.

149: People didn't throw 300 [billion] to 600 billion [dollars, Gartner Group's estimate of the total Y2K spending] to fix a problem that didn't exist. People spent 300 [billion] to 600 billion fixing it, and that's why nothing happened.

150: Everyone becomes equally stupid, essentially. It doesn't matter how smart or intelligent they were before. They lose all capacity for critical thinking, they lose all individual characteristics.

152: Men could be seen in the streets of Lagos holding on to their genitalia either openly or discreetly with their hands in their pockets. Women were also seen holding on to their breasts directly or discreetly by crossing the hands across the chest. It was thought that inattention and a weak will facilitated the "taking" of the penis or breasts. Vigilance and anticipatory aggression were thought to be good prophylaxis.

153: Panic has gripped residents of the Plateau State capital following reported cases of disappearing organs ostensibly for ritual purposes. No fewer than six of such cases have been reported in the last one week in different parts of the state capital, involving males and females whose organs allegedly "disappeared" upon contact with organ snatchers. A middle-aged man was almost lynched yesterday along Rwang Pam Street, after he allegedly "stole" a man's private part through 'remote control'. The victim allegedly felt this organ shrink after speaking to the suspect, who reportedly asked for directions, following which he raised an alarm. Passers-by who had become alert following reported similar incidents in the past few days, immediately pounced on the suspect inflicting serious injuries on him. The timely arrival of the Police who fired tear gas cannisters to disperse the irate crowd saved him from being lynched.

154: This phenomenon, which became known as the vanishing sexual/genital organ syndrome, resulted in a 'ritual' of instant mob lynching of the alleged culprits.

155: A city is a relatively large, dense, and permanent settlement of heterogeneous individuals. Large numbers account for individual variability, the relative absence of intimate personal acquaintanceship, the segmentalization of human relations which are largely anonymous, superficial, and transitory.

157: Cities have great appeal because of their variety, eventfulness, possibility of choice, and the stimulation of an intense atmosphere that many individuals find a desirable background to their lives. Where face-to-face contacts are important, the city offers unparalleled possibilities. It has been calculated [...] that in Nassau County, a suburb of New York City, an individual can meet 11,000 others within a 10-minute radius of his office by foot or car. In Newark, a moderate-sized city, he can meet more than 20,000 persons within this radius. But in midtown Manhattan he can meet fully 220,000. So there is an order-of-magnitude increment in the communication possibilities offered by a great city.

158: City life, as we experience it, constitutes a continuous set of encounters with overload, and of resultant adaptations. Overload characteristically deforms daily life on several levels, impinging on role performance, the evolution of social norms, cognitive functioning, and the use of facilities.

161: Nowhere has mankind been farther removed from organic nature than under the conditions of life characteristic of great cities.

166: The tendency to conformity in our society is so strong that reasonably intelligent and well-meaning young people are willing to call white black. This is a matter of concern.

169: He saw it in psychological terms as an illusion, as unwarranted and mistaken impressions of how other people feel and think on various matters.

170: Pluralistic ignorance refers to erroneous cognitive beliefs shared by two or more individuals about the ideas, feelings, and actions of others....

Pluralistic ignorance is not ignorance in the ordinary sense of not knowing. On the contrary, it is knowledge of others that is mistakenly considered to be correct.... Pluralistic ignorance refers to shared cognitive patterns, that is, socially accepted but false propositions about the social world.

171: Most extreme and fascinating are those cases in which people misperceive the minority position on an issue to be the majority.

172: At the extreme the phenomenon of 'pluralistic ignorance' reflects a situation where people appear to operate within a 'false' social world.

174: No experimental studies have examined the effects of media reports on mass psychogenic illness, despite the extensive literature demonstrating a relationship between consumption of disaster media and rates of acute anxiety and post-traumatic stress disorder.

175: Two conditions are thought necessary to induce mass psychogenic illness: 1) perceived exposure to an illness-causing agent and 2) observation of other persons' developing symptoms.

177: Dramatic and prolonged media coverage frequently enhances such outbreaks. [...] Intensive media attention probably heightened the collective anxiety and may have contributed to the second cluster of cases.

178: Extensive nationwide radio and television media coverage of the first incident in school A probably played a substantial role in transmitting the outbreak from school to school and from school to the general population. [...] Extensive media coverage of the incident in school A could have introduced an information bias and resulted in overidentification of cases in schools B–E.

179: In most studies, the media are portrayed negatively: as writing sensation-seeking, enlarging anecdotic stories, especially on who is to blame; being in the way of rescue workers; repeating the same images [...] over and over again; separating physical and mental health consequences of the disaster (with no attention paid to the latter); and creating new syndromes [...].

180: People tend to adopt the explanations offered by the media and integrate them into their story about their own health complaints.

181: [...] With few exceptions, the media have done more injury to the truth than was ever done by cover-up or whitewash. Television is the worst offender because the visual impact is unforgettable and any reasonable sense of proportion goes out of the window.

182: Many public health professionals acknowledge that, before embarking on an investigation, they have had a strong sense that an outbreak was psychogenic but that because of intense anxiety in the community, they felt obliged to pursue the investigation beyond what they thought was necessary.

183: To the journalist, news is about conflict. The reporter strives not only to assess the loss of lives and property, but also to determine if the damage could have been prevented and who is to blame. The television journalist also must find the pictures that tell the most compelling story, even when the images are disturbing. To the public health professional, news is about the absence of conflict. Loss of life is minimized and injured survivors receive prompt and appropriate treatment. These contracting agendas clash when TV-reporters and public health professionals are thrown together in the midst of a disaster. The reporter is drawn to the danger and drama, while health professionals emphasize prevention, reassurance and recovery.

184: Paradoxically [...] the observation of vigorous investigative activities may reinforce the suspicion that a genuine problem is being covered up. Persistent investigation also increases the likelihood of false positive results, which must then be explained to an apprehensive community.

185: Responses of emergency managers and the media to initial reports of unexplained illness are believed to amplify the phenomenon, spreading threatening information that lead more people to report symptoms. Steps such as evacuating students, mobilizing emergency responders, or hospitalizing people for minor symptoms are cited as promoting psychogenic episodes.

187: The impact of the Abilene Paradox on double-loop learning in an agile team". *Information and Software Technology*. 49 (6): 552–563; Orig.: "This strong cohesion within a team can lead to power issues, where the pressure to conform becomes a concern. Writers on groupthink describe how this desire for cohesion in a team can ultimately lead to ineffective decision-making, where unanimity is of utmost importance, to the detriment of alternate or deviant views that may be actually correct.

188: The impact of the Abilene Paradox on double-loop learning in an agile team". *Information and Software Technology*. 49 (6): 552–563; Orig.: "The important influencers in a group decision are not necessarily the experts or the leaders. [...] Those who influence decisions of groups are those who voice their opinion first – it is usual for remainder of the group, the herd, to follow this lead.

189: The media has also demonstrated the potential to convey accurate information and realistic messages of hope as an alternative to media hype and risk amplification.

190: The media must be embraced by the authorities as allies because, particularly in the early stages [...], they can play a helpful role by broadcasting to an anxious population accurate information.

191: The media can operate in different modes: media can follow, but they can also lead. They can report ongoing events, disseminating (official) information to the public. But they can also play a leading role in the social construction of the problem after a disaster, for instance, by creating a news wave based on magnification of one specific perspective. Operating in this mode, the media can have a huge impact on the way that a disaster and the risk issues involved are defined and perceived by the public as well as the authorities.

192: The first type is 'mass motor hysteria' which predominates in non-Western traditional cultures among students exposed to pre-existing psychosocial stress, most frequently repressive academic and religious discipline, which precipitates dissociation, histrionics, and psychomotor alterations. A second pattern, 'mass anxiety hysteria', is typified by the sudden appearance of extreme anxiety following the redefinition of a mundane event such as illness in a fellow student or an unfamiliar odour, which is perceived as an immediate threat. A third pattern, 'mass pseudo-hysteria' involves the relabelling of mundane symptoms by hypervigilant authorities.

195: Symptoms are believed to enable victims unconsciously to avoid undesirable activities or situations, and simultaneously receive support and attention.

197: Although a psychological phenomenon, psychological countermeasures did not prove effective, e.g., the calling in of a bomoh or medicine-man to exorcise spirits.

198: With any approach to mass psychogenic illness, the goal should be to restore the community to normal functioning as quickly as possible.

Prompt public identification of episodes of mass psychogenic illness has been advocated as an important step in terminating them, but such an approach can be problematic in practice. Physicians and others are understandably reluctant to announce that an outbreak of illness is psychogenic, because of the shame and anger that the diagnosis tends to elicit. [...] Alleviation of the widespread anxiety surrounding an episode of mass psychogenic illness requires prompt recognition and a coordinated multiagency investigation. As fears [...] increase, the frequency of such incidents and the anxiety they generate may increase. Awareness of the characteristics of mass psychogenic illness is critical for physicians and other health care personnel who respond to such outbreaks.

200: Despite these large differences, a number of remarkable similarities appear to underly their occurrence. For example, most incidences occur among individuals in stressful environments who have friends who have also been affected. Although the triggering event may differ from outbreak to outbreak, the general pattern of the contagion of symptoms is similar. Clearly, the similarities among the outbreaks are as intriguing as the differences between them.

203: Emotions are feelings connected to ideas, perceptions, and cognitions and to the social and cultural contexts in which it makes sense to have those feelings and ideas. Emotions also have functions and often are motives for action. They give our world its peculiarly animated quality; they make it a source of fear, joy, outrage, disgust, and delight. They also can de-animate the world by making it a cause for boredom and despair.

204: Emotions cannot be put into precisely defined categories. The totality of possible human emotions forms a continuum in which some significant centers can be singled out and considered as nuclear points for a special investigation. Such selected centers, however, cannot be adequately understood without considering the periphery, that is, the transition to and connection with related phenomena.

207: Disgust »refers to something revolting, primarily in relation to the sense of taste, as actually perceived or vividly imagined; and secondarily to anything which causes a similar feeling, through the sense of smell, touch and even of eyesight.

208: Disgust is an emotion. Some may resist this claim because disgust looks too much like a purely instinctual drive, too much of the body and not enough of the soul, more like thirst, lust, or even pain than like envy, jealousy, love, anger, fear, regret, guilt, sorrow, grief, or shame. Such resistance either confuses nausea with disgust or is better seen to evince a claim about disgust's more embodied »feel« than other emotions.

216: Freud did not give disgust much direct attention except generally as a reaction formation. But without disgust lurking about, one suspects, his oeuvre would have been half as long. What else, after all, makes sex so difficult, so frequently the basis for anxiety, neurosis, and psychosis? One might suspect that Freud's theories are themselves grand efforts to overcome a deep disgust with sex.

224: In spite of [disgust's] frequent occurrence and general classification as a basic emotion, [...] there are many unanswered questions. [...] We do not know how disgust originates in development, nor what the principle causes of differences in disgust sensitivity are, nor why it is the focus of humor (especially in children). Many of the fundamental questions posed by Darwin and Angyal remain unanswered.

225: Munch-Juriscic, D. (2018). Perpetrator Disgust: A Morally Destructive Emotion. In T. Brudholm & J. Lang (Eds.), *Emotions and Mass Atrocity: Philosophical and Theoretical Explorations* (pp. 142-161). Cambridge: Cambridge University Press; Orig.: »The core characteristic of the feeling of disgust is this particular and unpleasant bodily response that we have no control over. Because the response has this involuntary and reflex-like nature, disgust was for a long time mischaracterized as a primitive reflex. As a result, disgust was for a long time understudied and neglected in emotion research. [...] In 2013, more than four hundred academic publications were published with the keyword »disgust.« This relatively new and diverse area of research stretches from philosophy and psychology to cultural studies, anthropology, and the health sciences.«

227: This open-ended inquiry yielded a total of 221 descriptions of disgusting objects and actions. Foods, body products, and sexuality were indeed well represented, accounting for 57% of all descriptions. There were, however, 5 additional domains of disgust suggested. The largest of these domains (13% of all descriptions) involved gore, surgery, puncture wounds, deformity, and other situations in which the normal exterior envelope of the body is breached or altered. We refer to this fourth domain as »envelope violations.« The fifth domain (6% of descriptions) involved repulsive people whose actions were not necessarily linked to the physical body, as was characteristic of the first 5 domains. We refer to this domain as »socio-moral violations,« and it included, for example, Nazis, drunk drivers, hypocrites, and lawyers who chase ambulances. The sixth domain (6% of descriptions) referred to disgusting animals, mostly insects. The seventh domain (4%) involved concerns about dirt and germs (»hygiene«). The eighth domain was very small (1%), involving contact with dead human or animal bodies (»death«).

230: Even granting that disgust is a defensive emotion, it is still mysterious why a single emotion would be elicited by »threats« as disparate as feces, incest, and amputation. What unites these threats, and distinguishes them from other threats (e.g. fire, cancer, or financial ruin'?)

231: One of the most distinctive features of the emotion of disgust is the heterogeneity of its elicitors. For instance, the sense of disgust is much broader than a sensory rejection of unpleasant tastes and particular foods. Thus, disgust is elicited by certain animals (like rats, spiders, worms or cockroaches), bodily products (such as feces, sexual fluids, urine, saliva, nails, sweat, etc.), death, bad hygiene, sexual elicitors, body envelope violations (such as blood, gore and mutilation), visible signs of infection (lesions, discoloration, abnormal body proportion) and even certain offensive social behaviors, beliefs, institutions and persons.

232: Taken together, these correlations indicate that disgust can indeed be thought of as a defensive emotion. Highly disgust sensitive people appear to be guarding themselves from external threats: they are more anxious, more afraid of death, and less likely to seek out adventure and new experiences. Disgust appears to make people cautious not only about what they put into their mouths, but about what they do with their bodies.

233: Whilst core disgust may well be the strongest form of food rejection, objects which elicit core disgust account for little more than one quarter of the things which, for example, US and Japanese subjects claim to be disgusting. The remaining disgust triggers can be grouped into the following kinds: animal-nature disgust, interpersonal disgust, and moral disgust.

237: I wished to clean the skeleton of a bird, which had not been sufficiently macerated, and the smell made my servant and myself (we not having had much experience in such work) retch so violently, that we were compelled to desist. During the previous days I had examined some other skeletons, which smelt slightly; yet the odour did not in the least affect me, but, subsequently for several days, whenever I handled these same skeletons, they made me retch.

243: Imagine, if you will, a group of anthropologists sitting down to an elegant meal [...]. As the dishes arrive at the table, the anthropologists begin to exchange stories of the foods served to them in the field. Disgusting foods, foods that repelled them or that their bodies eventually rejected – huge sheep eyes offered to an honored guest, rotted goat's knees produced generously by residents of the most impoverished hut, dried fat and furry caterpillars that crunch like cheetos urged by an obese man with several hanging out of his mouth, a massive chunk of meatless fat from the tail of a fat-tailed sheep cooked and consumed with greedy delight by married women at the end of a wedding. (These married women happily gorge, knowing they will very likely vomit later that night, and suffer violent diarrhea.) To these the anthropologists added stories about the disgust evinced

by non-western people they would know about eating lobsters, being offered food or a cigarette in a left hand, using a 'French' (or western) toilet, or seeing dogs inside a home and on the beds.

244: What constitutes a disgusting stimulus, at the margins of the definition, is clearly influenced by culture and individual differences. Such influences may be enshrined in religious dietary laws and national dietary preferences (consider the French taste for snails, horsemeat and steak tartar and British preference for black pudding and tripe). Lack of tolerance for sweat and body odour seem to be a recent concern in Western cultures.

247: Miller 1997, S.15; Orig.: »The scalings back that attend middle and old age are more a function of a general loss of affect; they represent a giving up in the losing battle against physical deterioration, a general sense that less is at stake, that the game, even if not nearly over, has a determined outcome. Our biological mission has run its course—we either have had kids or will never have them—careers have peaked, and the stakes of failing in the moral and social competences that disgust holds in place are no longer so high.«

248: »Disgust sensitivity is inversely related to education and socioeconomic status.«

253: The origins of disgust lie with *distaste*. The function of distaste is to protect the body by withdrawing from or ridding the body of an undesirable substance. The elicitors of distaste are undesirable sensory properties, prototypically bitter tastes. Prototypical responses to such properties are the 'gape response', which serves to dispel food from the mouth, and the experience of nausea, which discourages ingestion. The former is certainly present in both newborn infants and in a variety of non-human animals. The latter is also thought to be present in newborn infants and other animals, though empirical confirmation is difficult to obtain. Distaste is also thought to be the only food rejection mechanism present at birth. During the first 4 years of human life, a second motivation for food rejection develops: *danger*. This motivation is shared to some degree by other animals, and is especially powerful in omnivorous animals such as rats. The function of danger is once again to protect the body from undesirable substances, and 'dangerous' substances are rejected on the basis of *anticipated negative consequences*.

256: More than any other emotion, disgust feels like a »gut« feeling, and because of its link to nausea, disgust may be the most effective emotion at triggering the gastroenteric nervous system.

257: We believe that disgust was shaped by evolutionary forces that elaborated upon an older food rejection system based on distaste.

258: Revulsion at the prospect of oral incorporation of an offensive substance. The offensive objects are contaminants; that is, if they even briefly contact an acceptable food, they tend to render that food unacceptable.

259: The term »disgust«, in its simplest sense, means something offensive to the taste. It is curious how readily this feeling is excited by anything unusual in the appearance, odour, or nature of our food. In Tierra del Fuego a native touched with his finger some cold preserved meat which I was eating at our bivouac, and plainly showed utter disgust at its softness; whilst I felt utter disgust at my food being touched by a naked savage, though his hands did not appear dirty. A smear of soup on a man's beard looks disgusting, though there is of course nothing disgusting in the soup itself. I presume that this follows from the strong association in our minds between the sight of food, however circumstanced, and the idea of eating it.

260: But one wonders whether taste would figure so crucially in Darwin's account if the etymology hadn't suggested it. The German *Ekel*, for instance, bears no easily discernible connection to taste. Did that make it easier for Freud to link disgust as readily with the anal and genital as with the oral zone? I suspect that the English word is in some unquantifiable way responsible for the narrow focus on taste, oral incorporation, and rejection of food in psychological treatments of disgust.

261: Although non-human species do not demonstrate disgust, most avoid decaying meat, suggesting that they have an analogous form of food rejection. Perception of disgust in humans is absent at birth, with young children appearing to be tolerant of odours associated with decay, and children in the first two years of life demonstrating the well known tendency to put anything into their mouths. The disgust facial expression can, however, be elicited in young children in response to unpleasant tastes.

262: Disgust originates in the mammalian bitter taste rejection system, which directly activates a disgust output system. This primal route (e.g., bitter and some other tastes) evokes only the output program, without a disgust evaluation phase. During human evolution, the disgust output system was harnessed to a disgust evaluation system that responded not to simple sensory inputs (such as bitter tastes) but to more cognitively elaborated appraisals (e.g., a cockroach). Initially, the evaluation system was a food rejection system that rejected potential foods on the basis of their nature or perceived origin. This was the first »true disgust,« because it engaged this evaluation system.

263: As the sense of smell is so intimately connected with that of taste, it is not surprising that an excessively bad odour should excite retching or vomiting in some persons, quite as readily as the thought of revolting food does; and that, as a further consequence, a moderately offensive odour should cause the various expressive movements of disgust.

264: There is no consensus when it comes to specifying the fundamental features of disgust. Some believe that disgust is primarily an aversion to contaminated food and therefore primarily mouth-related. Others hold that the prototypical object of disgust is something that offends our sense of smell.

267: In contrast to disgust evoked by visual cues for instance, olfactory evoked disgust is strongly tied to autonomic function and provokes a decrease of systolic blood pressure.

268: There is a specific relation between the level of disgust and olfactory sensitivity in men, who generally present lower values of disgust than women. [...] Only in men, a significant relation between disgust ratings and olfactory threshold was observed. Men with high olfactory sensitivity reported as high levels of disgust as female participants, while men with low olfactory sensitivity reported significantly lower disgust than women.

269: It seems to be rather the ability to perceive subtle odors than the lack olfactory perception that relates to disgust.

270: It is possible that enhanced olfactory sensitivity leads to enhanced attention to potentially dangerous olfactory objects in the environment. This may in turn foster disgust against a variety of objects. On the other hand, the opposite pathway is reasonable as well: enhanced disgust may make people more attentive to odors. Such increased attention may enhance turnover rate of olfactory receptor neurons at the olfactory epithelium.

271: Hyposmic persons compensate for worries about body odor by enhanced awareness of violations of hygienic rules.

277: In Hindu India, interpersonal contagion, mediated in part by contacts with food, is a major feature of society and a major basis for the maintenance of the caste system.

278: We cannot avoid one of the most troubling aspects of so much of the disgusting: it attracts as well as repels. The disgusting has an allure; it exerts a fascination which manifests itself in the difficulty of averting our eyes at a gory accident, of not checking out the quantity and quality of our excretions; or in the attraction of horror films, and indeed of sex itself.

280: We have a name for fear-imbued disgust: horror. What makes horror so horrifying is that unlike fear, which presents a viable strategy (run!), horror denies flight as an option. And it seems to deny fight as an option too. Because the threatening thing is disgusting, one does not want to strike it, touch it, or grapple with it. Because it is frequently something that has already gotten inside of you or takes you over and possesses you, there is often no distinct other to fight anyway. Thus the nightmarish quality of no way out, no exit, no way to save oneself except by destroying oneself in the process. [...] It seems that horror is a subset of disgust, being specifically that disgust for which no distancing or evasive strategies exist that are not in themselves utterly contaminating.

281: The difficult question about the horror of visual ugliness and deformity is whether these ugly things or beings are horrific independently of the prospect of intimate contact with them. Are grotesquely hideous persons disgusting only to the extent that we imagine them sexually, or in some sort of intimacy with us or others?

283: It is not that we fear intimacy with them or their intimacies with others; it is that we know how we see them and could not bear to be thus seen. The horror then is not in being intimate with them (though that too), but in being them.

284: There still seems to be an intractable psychological terror that ugliness and hideousness present just on sight independent of social problems of how to manage ourselves in their presence. Some sights simply evoke disgust [...]. Something pre-social seems to link us to a strong sense of disgust and horror at the prospect of a body that doesn't quite look like one.

286: Touch, smell, and even vision occupy the terrain long before taste gets involved. Touch is the world of the slimy, slithery, viscous, oozing, festering, scabby, sticky, and moist. Smell brings us to Freud, Swift, and Lear, who were obsessed with the barriers to sexual desire created by the unfortunate placement of our genitals and by the mere fact that humans are a source of odors. Vision forces us to face the ugly and the horrific. Only hearing is relatively exempt from disgust, and even it, via its remarkable sensitivity to annoyance and irritation, can lead us by slow degrees to disgust.

287: Disgust is triggered off not primarily by the sensory properties of an object, but by ideational concerns about what it is, or where it has been.

288: The roach (and the naked savage) is disgusting before it touches our food; its contaminating powers come from some other source.

289: Disgust is a feeling about something and in response to something, not just raw unattached feeling. That's what the stomach flu is. Part of disgust is the very awareness of being disgusted, the consciousness of itself.

291: It may well be that disgust is as singularly human as laughter and tears. No unambiguous evidence indicates that animals experience disgust. Animals find that certain foods taste bad and reject them; they find smells offensive and avoid them; they get sick and vomit and spit out foul substances; but it is not known that these aversions are accompanied by a sentiment like disgust or that animals have any notion (and this to me is crucial) of a category of things that are disgusting. Food-rejection systems don't need disgust, merely the sensation of an unpleasant taste or smell. When something has a taste we do not like, we do not feel contaminated by it unless it also disgusts us [...].

293: Evidence from the few trustworthy observations of 'wolfchildren', feral humans who have been raised by animals or fended for themselves without human contact, has been read to show that such children had no disgust.

294: The curious absence of disgust in the first years of life suggests that disgust may not be as evolutionarily prepared as other emotions, such as fear.

298: Disgust is a specific reaction towards the waste products of the human and animal body.

299: There is nothing particularly threatening or dangerous about the wastes of the body which could explain the strong avoidance reaction. These substances do not imply obvious noxiousness but merely and essentially inferiority and meanness. Wastes, to our minds, are something base, and contact with them is experienced as debasing, degrading rather than harmful. [...] This fact is particularly clear with regard to insults and curses. The insults used in our own and many other cultures sufficiently indicate the cultural and psychological role of excrements and of those parts of the body which have some relation to excretion.

301: Sometime after the age of four, children come to reject certain substances for largely conceptual reasons, e.g., for reasons of the nature, history or origin of the substance. This ideational food rejection thus depends upon a conception of some property of the substance which exists independently of any immediate sensory properties. In some cases this rejection occurs because the child has acquired the knowledge that certain substances are inappropriate substances. That is, the child has come to understand that some substances are not food, even though these substances do not elicit distaste, and may also cause no harm (e.g., paper, tree bark, sand). Rejection of such substances consists largely in the child simply not categorising the substance as a potential food when she comes into contact with it.

303: The 1st type of rejection to appear was that based purely on sensory characteristics, usually taste (distastes). Rejection based purely on anticipated harm following ingestion appeared next (danger). Finally, the oldest children and adults showed rejection based on the idea of what something is or where it comes from. This ideational type of rejection could be further differentiated into affectively laden rejection of substances that become offensive (disgust) and more neutral rejections of substances as simply not food (inappropriate). A critical psychological feature of disgusting substances in adults was that the foods are »contaminants»: They render an otherwise liked food inedible if present even in trace amounts or if associated with a liked food. Contamination sensitivity was not present in the younger Ss and appeared gradually in the age range studied.

304: [The notion of disgust] appears to descend upon us in large increments which arrive first during toilet training and again around the onset of puberty. These grand accesses of disgust in turn undergo refinement, usually in the direction of being pared back to prevent them from being somewhat disabling, even self-defeating. For instance, the disgust which is the desperate goal of toilet training may finally come on with such force, the revulsion to feces and urine be felt so strongly, that the child refuses to wipe herself or to wear underpants if a drop of urine has contaminated them.

305: Disgust does not come smoothly in small accessions that prepare us for the next small acquisition of more disgust rules; it comes in big clumps [...]. The emotion kicks in and holds us in its grip right away. That's what it means to be disgusted. It is only later that we learn the [...] practical evasive techniques that allow us to suspend or cut back the range of the sentiment. More time and social competence are needed to get the conventions and nuances under control.

306: Disgust responses have a learned, cognitive component that distinguishes them from mere distaste (and »dis smell«) responses, nausea, gag reflexes, and vomiting. Disgust is, in other words, an emotion with intentionality: it is about something.

307: Not before the age of two or three do we start rejecting objects as disgusting. The first category of disgust that we develop is core disgust; it is the disgust we feel at rotting or decaying objects, feces and other bodily waste. Later, we also learn to feel an involuntary disgust response for violations of certain social and moral codes.

308: Core disgust emerges in all normal humans between the ages of 4 and 8 years old, and [...] this emergence requires a significant degree of enculturation. Prior to this age, or without enculturation, children exhibit food rejection only on the grounds of distaste and danger (and perhaps inappropriateness). Animal-nature disgust then emerges sometime after core disgust, and interpersonal and moral disgust sometime after that.

309: Infants appear to have hard-wired knowledge of faces and sweet tastes, because their brains come equipped with cells and circuits that recognize them. But our more complex abilities are often better described as a 'preparedness' to learn something. For example, humans are born with few hardwired fears, but we come prepared to acquire certain fears easily (e.g., of snakes, spiders, mice, open spaces), and cultures vary in the degree to which they reinforce or oppose such fears. On the other hand, it is very difficult to create a fear of flowers, or even of such dangerous things as knives and fire, because evolution did not 'prepare' our minds to learn such associations.

310: Simply put, we are born with the capacity to feel disgust, but we learn what to feel disgust for.

311: A new rejection is learned from the reactions of others or from some new information...[and is] probably frequently induced by the displays of disgust in others, by a process that is not well understood.

312: The acquisition is related to an existing disgust substance...[, and] may occur by two pathways. One is generalisation, based on similarity, from existing disgust substances such as faeces. Another pathway is evaluative conditioning, a form of Pavlovian conditioning in which a valenced entity (an unconditioned stimulus-e.g., an already disgusting entity) is paired with a previously neutral entity, with the result that the neutral entity (the conditioned stimulus) changes in valence in the direction of the unconditioned stimulus.

314: These results suggest that emotion-specific attention effects can be found at very early visual processing stages and that only disgust-evoking images, and not fear-evoking ones, keep hold of our attention for longer. We speculate that this increase in early attention allocation is related to the need to perform a more comprehensive risk-assessment of the disgust-evoking images.

315: A Perspective on Disgust.» Psychological Review 94 (1987), S.32; Orig.: »A teaspoon of sewage will spoil a barrel of wine, but a teaspoon of wine will do nothing for a barrel of sewage.

316: When an offensive object touches a previously neutral object, some invisible essence/ residue is transmitted, resulting in their permanent connection (»once in contact, always in contact«). Additionally, it seems that when applied to disgust, things that are similar in some properties are felt to be fundamentally similar.

318: The first law, contagion, holds that »once in contact, always in contact.« That is, there can be a permanent transfer of properties from one object (usually animate) to another by brief contact. For example, in this study we show that drinks that have briefly contacted a sterilized, dead cockroach become undesirable, or that laundered shirts previously worn by a disliked person are less desirable than those previously worn by a liked or neutral person. The second law, similarity, holds that »the image equals the object,« and that action taken on an object affects similar objects.

319: The law of contagion, »once in contact, always in contact,« refers to the tendency to act as if brief contact causes a permanent transfer of properties from one object to another, even when there is no material substance transferred. Some people, for example, report that they would not drink from a glass that once held dog feces no matter how many times the glass is scrubbed and sterilized.

320: The disgust rejection is not primarily based on taste, but rather on knowledge of the nature or origin of a potential food. Things that taste bad do not necessarily have the property of contamination. For example, dipping a disliked vegetable in and out of a bowl of soup would not render the soup undrinkable for most people. Dipping a sterilized cockroach into the soup generally has a more dramatic effect.

321: Feelings of disgust can be transferred to objects for which they are irrelevant.

322: Any given human can become averse to substances towards which other humans make the disgust face *even if she herself cannot experience disgust*.

323: The aspect of disgust that makes the disgusting contaminating and infectious means that disgust behaves somewhat magically in having extraordinary powers of invasiveness and duration. The disgusting can possess us, fill us with creepy, almost eerie feelings of not being quite in control, of being haunted.

324. A sense of contamination approximating to two of the 'laws' of sympathetic magic lies at the heart of the human disgust response.

325: Young children's development of an understanding of contamination correlates with their development of the disgust response. Such acquisition is at least partially culturally dependent, as initial contamination sensitivity develops more rapidly in children in India than in American children, paralleling the greater significance of contamination in Hindu Indian culture more generally. Thus if contamination sensitivity does lie at the heart of the disgust response, one important question is how the development of our magical understanding of contamination should best be explained.

326: A meta-examination of the case studies of 50 feral children showed that whilst all of these children had food preferences in line with their diet during isolation from human contact, and that such preferences showed evidence of rejection on the basis of distaste, danger and inappropriate substances, none showed any evidence either of disgust or of a sense of contamination.

329: The sense of contamination essentially involved in the disgust response approximates to two of the laws of sympathetic magic. [...] It is the absence of these laws from the psychology of young children which accounts for young children lacking the disgust response.

330: Data on contamination sensitivity in infants and young children indicate that an understanding of contamination is indeed absent from children younger than 3 years old – and that children's contamination sensitivity increases with age, reaching adult status some time before the age of 10.

331: Contamination sensitivity is a sophisticated ability, requiring a separation of appearance and reality. [...] Furthermore, contamination implies

some conception of invisible entities that are the vehicle of contamination. The notion of invisible entities and the notion that appearance is distinct from reality are cognitive achievements of considerable abstraction, and both seem to be absent in young children. This cognitive limitation may be the principal barrier to a full childhood acquisition of disgust.

334: Humans must eat, excrete, and have sex, just like other animals. Each culture prescribes the proper way to perform these actions – for example, by placing most animals off limits as potential foods, and all animals and most people off limits as potential sexual partners. People who ignore these prescriptions are reviled as disgusting and animal-like. Furthermore, humans are like animals in having fragile body envelopes that, when breached, reveal blood and soft viscera that display our commonalities with animals. Human bodies, like animals bodies, die. Envelope violations and death are disgusting because they are uncomfortable reminders of our animal vulnerability.

342: Because disgust expresses an aversion to our own mortality, it encourages us to reject our animal vulnerability and with it our own animal bodies.

344: The ritualisation of our eating practices serves (in combination with core disgust) to separate our eating habits from those of other animals, and thus enables us to mark ourselves as distinct from and superior to such animals with regard to one of our most central activities.

345: Pure disgust was originally a gustatory emotion rooted in evolution to avoid the intake of potentially hazardous food. Over time, it has taken on social and cultural meanings and has expanded to encompass broader categories of aversions including social or moral violations.

346: There are few things that are more unnerving and disgust evoking than our partibility. Consider the horror motif of severed hands, ears, heads, gouged eyes.

347: Disgust ranges more widely than we may wish, for it judges ugliness and deformity to be moral offenses. It knows no distinction between the moral and the aesthetic, collapsing failures in both into an undifferentiated revulsion.

348: Recent studies have shown that interactions with facially disfigured individuals trigger specific patterns of cardiovascular reactivity—patterns typically associated with the perception of threat.

349: The perception of an agent as possessing negative social value, perhaps because it shows signs of (a) disease, (b) being a poor exchange partner, or (c) outgroup membership, should actively inhibit desires for social interaction. The emotion of disgust has frequently been implicated in this context—it appears to serve as an affective mechanism for tracking instances of negative social value, eliciting revulsion and desires for social distance.

350: Racism, for example, can be taught by invoking the purity module and triggering flashes of disgust at the 'dirtiness' of certain groups, or by invoking the reciprocity module and triggering flashes of anger at the cheating ways of a particular group (Hitler used both strategies against Jews).

351: Disgust has been used throughout history to exclude and marginalize groups or people who come to embody the dominant group's fear and loathing of its own animality and mortality.

352: Culture can override the tendencies that come with the disgust affect, but it has to work harder to do so.

354: Our disgust responses are not, in fact, always in alignment with our moral values. Once we have internalized a sense of disgust toward an object, the disgust response becomes an embodied, automatic response that operates independently of conscious cognitive processes. This habit of the body is thereafter difficult to change. Put differently, we may feel a disgust response towards a certain object or act even though we no longer consider it disgusting.

355: Defeated intellectually, prejudice lingers emotionally.

357: Both contempt and disgust are emotions that assert a superior ranking as against their objects. But the experience of superiority based on the one is quite different from that based on the other. We can enjoy our feelings of contempt, mingled as they often are with pride and self-congratulation. Contrast disgust which makes us pay with unpleasant sensation for the superiority it asserts. Whereas disgust finds its object repulsive, contempt can find its object amusing. Contempt, moreover, often informs benevolent and polite treatment of the inferior. Disgust does not. Pity and contempt go hand in hand, whereas disgust overwhelms pity.

359: Semen is perhaps the most powerfully contaminating emission. Semen has the capacity to feminize and humiliate that which it touches. And it just may be that the durability of misogyny owes much to *male* disgust for semen.

360: How many archetypal narratives have as their central theme male repulsiveness and embody a (male) belief that women would never suffer slimy male intrusions voluntarily, but only by abduction and rape (Hades and Persephone); or if endured voluntarily then only because of the woman's uncanny and rarest of disgust-overcoming powers (Beauty and Beast, Mina in the Dracula stories)? Is it an accident that so much of the horror genre involves a distinctly disgusting, cadaverous, bestial, or slimy man competing for the central woman against her decent, handsome, Apollonian fiance? One senses that the monster and the proper man are related as Mr. Hyde to Dr. Jekyll, different manifestations of the same male principle. The view ultimately is that male sexuality, embodied in an organ reminiscent of a slug that emits viscous ooze, makes every man, in men's view, unimaginable to women except as a source of horror, a monster.

365: Mass psychogenic illness is the maladaptive version of the kind of empathy that finds expression in actual physical sensation: the contagious yawn or sympathetic nausea or the sibling who grabs his own finger when he sees his brother's bleed. Any two people, as they try to delicately disagree or flirt or compare notes on the best route to Boston, might unwittingly match vocal tones or even frequency of eye blinks.

367: Some studies suggest that incidental disgust can lead to more negative attitudes toward an entire social group. It has been shown that disgust induced by pictures and autobiographical writing increased implicit bias against homosexuals, but anger did not.

368: Across many cultures, the words and facial expressions used to reject physically disgusting things are also used to reject certain kinds of socially inappropriate people and behaviors, some that involve the inappropriate use of the body (e.g., cannibalism, pedophilia, torture), others that do not (e.g., hypocrisy, fawning, betrayal).

373: ...represent a more abstract set of concerns about the human animal distinction, focussing not so much on the human body as on...the human as a member of a cooperating social entity.

- 374: The function of moral disgust is therefore first and foremost to protect the social order.
- 375: Disgust is used and abused in society, being both a force for social cohesion and a cause of prejudice and stigmatization of out-groups.
- 376: Until recently, morality scholars often assumed that moral judgments— of an action as right or wrong, of a person's character as good or evil— are founded upon higher order cognitive processes. The individual, in making a moral judgment, was presumed to consciously apply a priori principles, such as beliefs about equality or rights. A different view of moral judgment has emerged over the past two decades. This view highlights how emotions feed into intuitions, or fast, automatic hunches of right and wrong that figure prominently in moral judgments.
- 377: Some authors argue that »moral disgust« is a reaction to a subclass of egregious moral offenses, those that reveal that an individual is lacking the normal human motives (people and behaviors that are morally »sick« or »twisted«).
- 379: Anger and disgust have been investigated chiefly as separate emotions, experienced in situations that directly affect the individual feeling them, but they have also been studied as moral emotions that can respond to violations of norms endorsed by a group or society. Together with contempt, they are considered part of the »other-condemning« family of emotions that are used to express different types of disapproval for the actions of other people.
- 382: Disgust, I shall argue, is very different from anger, in that its thought-content is typically unreasonable, embodying magical ideas of contamination, and impossible aspirations to purity, immortality, and nonanimality, that are just not in line with human life as we know it.
- 383: Shame may stem from the primary emotion of disgust being reflected on the self (i.e., perceiving the self as a source of contamination).
- 384: Social phobia, in which the person imagines that he will be humiliated in public, may also have as its basic emotion self-directed disgust, or shame, a complex emotion perhaps related to disgust.
- 386: The importance of shame in the development of self-esteem and relationship with others has been reviewed extensively (Gilbert, 1997). Low self-esteem is known to be an important component of depression, and self-loathing, or self-disgust, in addition to sadness, may represent part of the core phenomenological state of depression. Disgust would therefore appear to play an important role in the genesis of depression.
- 388: With heightened disgust, conceptions or intuitions of purity as moral and impurity as immoral should be strong and salient, and therefore, people feeling disgust will make stronger moral judgments about actions violating or upholding the purity domain.
- 391: Given the psychological, physiological, and neurological overlap between physical and moral disgust, physical cleansing acts that mitigate physical disgust might also reduce social or moral disgust, thereby alleviating moral condemnation.
- 392: A growing body of research suggests that we think about morality in terms of cleanliness; in particular, moral violations are experienced as dirty and elicit the desire to cleanse. [...] when people think about a past immoral action they displayed a greater desire for cleansing products, and increased mental accessibility of cleansing-related concepts, and a greater likelihood of using antiseptic wipes. Likewise, they found evidence suggesting that physical cleansing reduced the upsetting consequences of immoral behavior.
- 403: Should people use their intuitions when confronted with moral issues?
- 404: In the present case the answer appears to be no because people who followed their feelings were »tricked« by extraneous disgust.
- 406: If each person tried to figure out the optimal moral judgment without taking any counsel from affectively laden intuitions, it is not clear that the products of such deliberation would be wise.
- 408: If people ignore all feelings when making judgments, they may have little else to go on. [...] There is no known reasoning process that will give a better answer.
- 410: The validity of disgust as a trusty moral guide seems to be at least questionable. As mentioned above, disgust is an emotion of extraordinary inclusiveness; it is susceptible to be triggered by certain cues even in the absence of any real threat. Moreover, because disgust can lead to more negative attitudes toward specific social groups (Inbar et al., 2011) and it can increase the severity of moral judgments (Schnall et al., 2008), it is not unreasonable that disgust sometimes could serve as the primary reason for regarding some acts as illegal.
- 411: Intuitions are the judgments, solutions, and ideas that pop into consciousness without our being aware of the mental processes that led to them. When you suddenly know the answer to a problem you've been mulling, or when you know that you like someone but can't tell why, your knowledge is intuitive. Moral intuitions are a subclass of intuitions, in which feelings of approval or disapproval pop into awareness as we see or hear about something someone did, or as we consider choices for ourselves.
- 412: Moral judgment is generally a result of quick gut feelings, much like aesthetic judgment. Moral reasoning plays several roles in the model: People search for reasons to justify their quick intuitive responses, people use reasoning to share their judgments with others and persuade them to agree, and people rely on reasoning when they have no initial intuition or when they have conflicting intuitions. Therefore, moral reasoning is an important part of moral life, but for most people, most of the time, most of the action is in the quick, automatic, affective evaluations they make of people and events.
- 413: ...much of mature moral functioning is intuitive rather than deliberative.
- 414: Virtues, on this understanding, are closely connected to the intuitive system. A virtuous person is one who has the proper automatic reactions to ethically relevant events and states of affairs [...]. Part of the appeal of virtue theory has always been that it sees morality as embodied in the very structure of the self, not merely as one of the activities of the self. Even Aristotle supposed that in developing the virtues we acquire a second nature, a refinement of our basic nature, an alteration of our automatic responses.
- 415: This kind of research will continue to challenge the age-old assumption that emotions are unsystematic in their effects upon reasoning, revealing instead that the role of emotions in what members of societies deem moral is rich, organized, and profound.
- 417: People have quick gut feelings that come into consciousness as soon as a situation is presented to them. [...] when asked to explain their judgments, people search for supporting arguments and justifications using the reasoning system. As with the visual system, we can't know how we came to see something; we can only know that we see it. If you focus on the reasons people give for their judgments, you are studying the rational tail

that got wagged by the emotional dog.

418: The Reasoning Process Is More Like a Lawyer Defending a Client Than a Judge or Scientist Seeking Truth.

419: One way of resolving the ambivalence aroused by the moral dumbfounding effect, as these studies show, is to infer or presume some degree of harm to other people, even in cases in which no harm is present. The presumption of harm makes the condemnation of harmless actions easier by insisting that, in some way, harm to other people occurs in such an action.

420: Logical development is a necessary condition for moral development. [...] Many individuals are at a higher logical stage than the parallel moral stage, but essentially none are at a higher moral stage than their logical stage.

421: First, individuals attain a logical stage [...] which allows them to see »systems« in the world, to see a set of related variables as a system. Next they attain a level of social perception or role-taking, where they see other people understanding one another in terms of the place of each in the system. Finally, they attain Stage 4 of moral judgement, where the welfare and order of the total social system or society is the reference point for judging »fair« or »right«.

423: The pre-conventional moral level is the level of most children under 9, some adolescents, and many adolescent and adult criminal offenders. The conventional level is the level of most adolescents and adults in our society and in other societies. The post-conventional level is reached by a minority of adults and is usually reached only after the age of 20.

The term »conventional« means conforming to and upholding the rules and expectations and conventions of society or authority just because they are society's rules, expectations, or conventions. The individual at the pre-conventional level has not yet come to really understand and uphold conventional or societal rules and expectations. Someone at the post-conventional level understands and basically accepts society's rules, but acceptance of society's rules is based on formulating and accepting the general moral principles that underlie these rules. These principles in some cases come into conflict with society's rules, in which case the post-conventional individual judges by principle rather than by convention.

424: Being aware that people hold a variety of values and opinions, that most values and rules are relative to your group. These relative rules should usually be upheld, however, in the interest of impartiality and because they are the social contract. Some nonrelative values and rights like life and liberty, however, must be upheld in any society and regardless of majority opinion.

426: It's not good to steal from the store. It's against the law. Someone could see you and call the police.

It's a matter of law. It's one of our rules that we're trying to help protect everyone, protect property, not just to protect a store. It's something that's needed in our society. If we didn't have these laws, people would steal, they wouldn't have to work for a living and our whole society would get out of kilter.

It's violating another person's rights, in this case, to property.

Well, the law in most cases is based on what is morally right, so it's not a separate subject, it's a consideration.

Recognizing the rights of other individuals, first for life and then to do as he pleases as long as it doesn't interfere with somebody else's rights.

427: Disgust is the main emotion related to the »purity/sanctity« foundation.

429: People, in the course of the civilizing process, seek to suppress in themselves every characteristic that they feel to be 'animal'.

431: Spontaneously, without any theological training, I, as a child, grasped the incompatibility of God and shit and thus came to question the basic thesis of Christian anthropology, namely, that man was created in God's image- and God has intestines!-or God lacks intestines and man is not like Him. The ancient Gnostics felt as I did at the age of five. In the second century, the great Gnostic master Valentinus resolved the damnable dilemma by claiming that Jesus 'ate and drank, but did not defecate.' Shit is a more onerous theological problem than is evil. Since God gave man freedom, we can, if need be, accept the idea that He is not responsible for man's crimes. The responsibility for shit, however, rests entirely with Him, the Creator of Man.

432: Physical cleansing may wash away moral sins through symbolic self-completion [...]. Thus, when moral self-definition is at stake, such as when one has indulged in morally questionable activities, one should naturally be motivated to engage in activities that will restore moral integrity. [...] The restoration or completion of the moral self can be achieved through direct restitution, but it may also be achieved through substitutable symbols or activities that are not directly related.

433: If physical cleansing restores the moral self, then individuals should have less need to engage in direct compensatory behaviors after physically cleansing themselves. This is indeed what we found.

436: The ethics of divinity – or the »purity« domain – are articulated around the emotion of disgust, which appears to make people feel that some behaviors and beliefs are higher, more spiritual, and less carnal than others.

440: Love is paired with hate, anger with fear, joy with sadness, pride with humility or shame. And disgust? Our normal diction of emotions doesn't provide us with a ready opposite for disgust.

442: Empathy is not an emotion; it is a metacognitive ability to take another's perspective and then feel what the other feels. Compassion is a better term for being moved by another person's suffering and then wanting to help.

443: An important but unresolved issue is whether the effects of cuteness on social engagement and mentalizing are mediated by emotion. To our knowledge, no studies of cuteness have taken an emotion-centered approach, assessing whether the cuteness response is characterized by coherent changes across multiple bodily systems such as facial expression, autonomic physiology, and phenomenology or whether such changes directly impact social engagement and mentalizing processes. Future research is needed to answer these questions.

444: In terms of their effects on mentalizing and anthropomorphism, we believe that the cuteness response is the most perfect opposite. Like disgust, it is often triggered by animals and inanimate objects, as well as by people. Therefore, like disgust (but unlike compassion, love, gratitude, and elevation), it is often felt toward objects that are not animate. Therefore, like disgust, cuteness is intimately involved with adjusting the way people mentalize objects that are not already highly mentalized.

446: It seems that any child—even one of another race living halfway across the world—is granted automatic membership in the moral circle (at least once attention is drawn to it).

449: Our argument about cuteness contradicts the leading theory of cuteness: that it is an »innate releaser« of a parental instinct (Lorenz, 1950/1971).

Instead, we show that the cuteness response is better understood as a mechanism that »releases« sociality (e.g., play and other affiliative interactions), which sometimes (indirectly) leads to increased care.

455: As for klismaphilia (the erotic enema deviance), urolagnia (ingestion of urine for sexual purposes), necrophilia, phagia, bestiality (Rebal, 1982), one could speculate that the intense emotional response induced by disgusting stimuli and activities becomes associated with sexual arousal (Kraft-Ebing, 1886). Nevertheless, 'normal' eroticism from kissing onwards, presumably involves a similar but limited process, specific and personalised to the sexual partner.

466: Highly disgust-sensitive persons are likely to respond with strong disgust to highly disgusting humorous material, which should make them unable to construe their reaction as anything else. Disgust would remain the dominant label for their experience, and mirth cannot materialize. [...] Comparatively disgust tolerant persons, on the other hand, might need highly disgusting humorous material to react with any degree of intensity, and they might be left untouched by minimal and moderate disgust stimulation. For disgust-tolerant persons, then, only strong disgust stimulation can foster intense mirth reactions.

471: The child who is commanded all day long may be commander over his dog. The child who is full of resentment over what he believes is his bad treatment by adults may kick at his dog. Though this use of a dog, if carried to extremes, is not exactly commendable, there is some therapeutic effect for children when indulged in within reason.

474: If some abusers describe their actions as fun and thrilling, then we need to discover what it means, feels, sounds, tastes, or looks like to have harmed or killed animals as a fun and thrilling experience. In short, the development of a general theory of animal abuse must go beyond narrow psychiatric models to include interactional theories of behavior that can approach »cruelty« as a complicated phenomenon having different meanings and consequences for different types of animal abusers.

475: Children's play is not always, or perhaps ever, »idle« play. If it existed, idle play would teach children nothing. On the contrary, children learn through »ordinary play« and what they learn varies, with some of it relating to the development of their moral selves and their future ability to assume adult roles.

477: Very low activation of disgust may generate a highly antisocial person.

479: Some of them made it to the bathroom before they threw up. Some didn't.

486: There are several lines of evidence to suggest that abnormal perception of disgust may underlie various psychiatric disorders, including OCD, phobias, depression, eating disorders, certain sexual dysfunctions and uncommon psychiatric syndromes.

490: Of all of the emotions, disgust tends to play a predominant role in dining, and is the emotion most prevalent in food norms more generally. [...] Indeed, many food norms fall under the broader category of purity norms, which are typically associated with and follow the logic of disgust.

491: People with anorexia nervosa and bulimia often experience disgust with respect to sexuality, parts of their bodies, and towards certain foods, especially those which are fattening or have a high calorie content.

492: Dysmorphophobia, the persistent preoccupation with a presumed deformity or disfigurement and the refusal to accept advice and reassurance from others to the contrary, can also be linked with disgust.

495: We know very little about the history of disgust. It is absent in nonhuman primates, yet extremely frequent and probably universal among contemporary humans. We do not know much about the sequence of events that introduced and expanded disgust over historical time. We do not know whether the acceptance of the theory of evolution, and hence of human continuity with animals, played a role in the development of animal-nature disgust.

500: Almost all food-related disgust elicitors for North Americans are animals or animal products, and almost all cultures consume very few parts or products of a very small number of animal species (and when doing so often take great care to disguise the fact that what is being consumed is animal in origin). In addition, animals and their products are cross-culturally the subject of the strongest and the greatest number of taboos, and such taboos typically involve disgust as a motivating and sustaining factor.

501: Modern methods of processing, packaging, cooking, and presenting meat remove reminders of the whole animal and eliminate, disguise, or mitigate cues that meat is in fact muscle from the interior of a once-living creature.

502: So low is smell that the best smell is not a good smell but no smell at all. And this sentiment predates the twentieth-century American obsession with not smelling. Montaigne in the sixteenth century cites classical authors to the same effect: »The sweetness even of the purest breath has nothing more excellent about it than to be without any odor that offends us.«

504: Diet has been an object of philosophizing for millennia, with philosophers of many schools sharing the assumption that proper culinary habits are a vital component of living well, and that flouting them could have pernicious effects that go beyond merely spoiling physical health [...].

505: Food and dining put immediate roots into signaling behavior, group membership, social boundaries and the identities of people who must navigate them.

506: So for a long time there has been a kind of allure about the idea that food and identity are intimately bound together. Indeed, we are told that a form of magical thinking common to many primitive cultures included the belief that you could take on the properties of the organisms you ate, including even the fighting prowess of vanquished warriors from a rival tribe. Perhaps vestiges of such magical thinking still lurk in the modern mind.

509: Although modern meat marketing reduces disgust-eliciting cues, such features are still more salient in red meat than in other animal products, hence the sequence of meats avoided in the early stages of vegetarianism could reflect the relative availability of disgust stimuli.

514: Disgust did not evolve, we developed it and have taught it ever since in varying forms, you are born a primate and taught to be human.

517: Cast on this globe, without physical powers, and without innate ideas; unable by himself to obey the constitutional laws of his organization, which call him to the first rank in the system of being; MAN can find only in the bosom of society the eminent station that was destined for him in nature, and would be, without aid of civilization, one of the most feeble and least intelligent of animals.

519: Here we have the most embodied and visceral of emotions, and yet even when it is operating in and around the body, its orifices and excreta, a world of meaning explodes, coloring, vivifying, and contaminating political, social, and moral orderings.

520: Humans are most likely the only species that experiences disgust, and we seem to be the only one that is capable of loathing its own species. We also seem driven to aspire to purity and perfection. And fueling no small part of those aspirations is disgust with what we are or with what we are likely to slide back into. As we shall see, ultimately the basis for all disgust is us - that we live and die and that the process is a messy one emitting substances and odors that make us doubt ourselves and fear our neighbors.

523: The disgust reaction takes place on a quite primitive level, far removed from the strict logic of science.

524: Disgust seems intimately connected to the creation of culture; it is so peculiarly human that, like the capacity for language, it seems to bear a necessary connection to the kinds of social and moral possibility we have.

525: The complexity of disgust reflects the complexity of a species that is both animal and human.

526: Man is an animal suspended in webs of significance he himself has spun.

527: Disgust is in many respects the emotion of civilization.

529: It is remarkable that the disgust-producing capacity of things is so intimately tied to their position in a rank-ordered hierarchy with one significant exception: humans. As a general matter it is the low, the contemptible, that are contaminating; it is inferiority itself that tends to disgust no matter whether it be the inferior position in a classification system of plants or animals or in our own social and moral hierarchies. Does scientific classification write our social arrangements large upon the natural world?

530: By using the intertextual frame, «Tobe Hooper has used Hitchcock's Psycho as an intertext for Texas Chain Saw Massacre and I am smart enough to see this.» I am constructing for myself the role of a listener to a joke I am attributing to Hooper. Thus, I become complicit with Hooper in the mechanisms of a tendentious joke, rather than the joke's victim – the «average» viewer of the movie.

535: The existence of an index case from which the 'contagious' illness spreads is considered typical of these outbreaks. In each period, just over half of the reports identified the existence of a specific index case.

541: The price we pay is a permanent state of anxiety about the next Big One. It's not a question if Apocalypse will occur, we're repeatedly told, but when. In this febrile atmosphere it is not surprising that public health experts sometimes get it wrong and press the panic button when, in reality, no panic is warranted.

542: The social origins of somatic distress are apparent to most people and so the simple declaration of ill health raises questions about the adequacy and legitimacy of existing social structures and arrangements. Whether used consciously and strategically or inadvertently, somatic symptoms then may present a commentary on social circumstances. At times, they may serve as a form of protest, challenge, or contestation of social conditions. Compared with frank complaints about one's psychological state or social situation, however, somatic symptoms are oblique or indirect and, hence, may protect the powerless from the counter-attack that might be elicited by more direct criticism.

543: Symptoms that are explicitly attributed to oppressive circumstances can be interpreted as a means of protest or contestation and can be used as a means of acquiring desiderata [...]. However, even when this attribution is acknowledged by sufferers themselves, this does not imply that symptoms are factitious, willful, or intentional.

547: Among those affected with social ties with other affecteds, the ones who became affected first exhibited the most extreme symptoms.

548: Today nucleic acid testing came back with a positive result, the dust has settled, finally diagnosed.

550: I deeply mourn for all the medical practitioners passing away in the struggle against this emerging infectious disease, especially Dr Li Wenliang, as one of the whistle-blowers dedicating his young life in the front line. We were encouraged by his dedication to patients and we will continue to fight against the virus to comfort the dead with the final victory.

554: Under the continuous and stable weather conditions, the anthropogenic pollutants and airborne dust were easily accumulated, resulting in continuous haze pollution.

555: There are many kinds of air pollutants, among which sulfur dioxide, nitrogen oxides, and total suspended particles pose the greatest threat to human health. Atmospheric particulate matter (PM) can induce lung tissue damage through oxidative stress and pro-inflammatory factors. Numerous epidemiological studies have been carried out and proved that atmospheric pollutants are closely related to the occurrence and death of respiratory and cardiovascular diseases. Regarding pneumonia, the previous animal experiments have confirmed a short-term exposure to air pollutants was capable of causing lung inflammation.

556: A population study conducted in Hamilton, Canada, found a connection between long-term exposure to air pollutants and hospitalization for pneumonia in the elderly [14]. Multi-city research performed in the United States as well as found that higher concentrations of PM10 and ozone can enlarge the risk of pneumonia admissions [15]. In the mainland of China, a few previous investigations discovered a correlation between atmospheric pollution and hospitalization or emergency department (ED) visits for pneumonia [16–19].

559: The risk of death is strongly related to age, being particularly high in those aged >70. It is also higher amongst males, economically disadvantaged populations, and in some ethnic groups.

560: The mortality from COVID-19 depends on comorbidities, including conditions that increase cardiovascular risks such as arterial hypertension, diabetes mellitus, obesity, and established coronary artery disease, as well as respiratory conditions such as asthma and chronic obstructive pulmonary disease (COPD), being similar to those that are influenced by air pollution.

561: In China, the incidence of COVID-19 was found to be significantly enhanced by PM2.5, while a correlation between ambient PM2.5 and the mortality rate was also established.

565: When the »Tokyo smog" became a controversial social problem in and after 1970, few specialists formally claimed that the serious symptoms were associated with a simple mass psychogenic illness (or mass hysteria). This was probably due to: (1) their scientific interests in first excluding

other possible etiological factors, (2) little attention to epidemics of mental disorders, or (3) social »taboo« or reluctance in labeling affected children. [...] We, in the light of the present study, wish to conclude that the acute systemic neurobehavioral illness associated with photochemical air pollution in Japan was psychological in origin.

566: Northern Italy ranks among the top most polluted areas of Europe. The Lombardy region is the geographic and economic epicenter of this area, with more than 10 million residents and the highest gross domestic product per inhabitant of the country. Most of its major cities are located in the basin of the Po River, which crosses the entire region. The basin is bordered on three sides by mountains which render air mass exchange very low. Wind speed measured in the Po River plain is among the lowest in Europe, causing frequent phenomena of thermal inversion and trapping of smog and pollution close to the ground. In addition, Lombardy counts many industrial facilities as well as small and medium enterprises for which road transport is an essential component for economic viability[...]. Overall, its unfavorable geographical context, climate characteristics, land use and emission sources create a high level of air pollution.

567: Lombardy, the most populated and industrialized Italian region, was the epicentre of the first wave (March and April 2020) of COVID-19 in Italy and it is among the most air polluted areas of Europe.

568: In Italy, it was found that the high pollution concentrations that are typical for the Po valley, especially in the Lombardy region of which Milan is the capital, were associated with a high mortality rate.

569: Chronic exposure to atmospheric contamination may represent a favorable context for virus spreading.

570: It seems that the SARS CoV-2 is selectively spreading, i.e. some large metropolitan areas are devastated by the virus in term of infected people and fatalities, while in others the virus transmission is limited with consequent much lesser fatalities. Air pollution is another crucial factor that should be taken into account to investigate the COVID-19 transmission.

572: According to the authorities, some patients were operating dealers or vendors in the Huanan Seafood market.

573: It is understood that the 1st patient with unexplained pneumonia that appeared in Wuhan this time came from Wuhan South China Seafood Market.

576: Now It seems clear that [the] seafood market is not the only origin of the virus. But to be honest, we still do not know where the virus came from now.

579: While these technologies allow a network to spread out across geographic space and might even enhance contacts outside the home (e.g., arranging a meeting at a restaurant or bar), they seem, however, to lower the probability of having face-to-face visits with family, neighbors, or friends in one's home.

580: Internet usage may even interfere with communication in the home, creating a *post-familial family* where family members spend time interacting with multiple computers in the home, rather than with each other. [...] computer technology may foster a wider, less-localized array of weak ties, rather than the strong, tightly interconnected confidant ties [...].

582: Recently, with most individuals' increasing dependence on using technological devices and spending long periods with them, social relationships and face-to-face interaction have declined as main means of communication and have been replaced with these devices.

583: One of the major debates in the scientific community after the internet revolution, and particularly in the last two decades, has been the misuse of technology, such as smartphones, the web, etc. The misuse of technology has affected the definition of the terms 'addiction' and 'clinical condition,' which were traditionally used for certain phenomena such as alcohol or drug addiction. After the internet revolution, many scholars referred to technology misuse as a 'new clinical disorder'. [...] Such misuse is related to lowered work productivity, negative effects in daily life, and what is called technostress.

584: The excessive use of smartphones contributes to psychopathological outcomes among users, such as self-consciousness, depression, antisocial behavior, social fragmentation, suicide, and stress due to feeling lonely and isolated from others.

585: [...] While less than 1 per cent of the over-75s have self-harmed at some point in their lives, around 12 per cent of millennials report having done so, along with more than a quarter of Gen Z girls. The suicide rate for young women in Britain is now at its highest on record.

592: Due to the unhealthy association between the intensive use of smartphones and users' physical and social health outcomes, many cross-cultural studies have been conducted, and have documented several mental, physical, and social behavioral disorders. [...] Many studies have found that there is a relationship between technological addiction and psychopathological symptoms [...].

594: Isolated individuals experience a lack of standards, lack of meaning, and self-alienation. Moreover, the effects of social alienation also extended individuals' psychosomatic symptoms [...].

598: It's remarkable to see how one individual posts something, and then the next person posts something—not only are the movements bizarre and not consistent with known movement disorders, but it's the same kind of movements. This mimicry goes on with Facebook or YouTube exposure. This is the modern way that symptomatology could be spread.

599: Boredom, it has been claimed, is the name we give to a less intense form of disgust. By this argument boredom stands in relation to disgust as annoyance does to anger or maybe as pensiveness or wistfulness does to sadness.

610: En de laatste jaren was er een enorme groei van ziekteverzuim omwille van psychisch lijden en burn-outs. Het jaar voor de corona-uitbraak voelde je hoe dit onbehagen nog exponentieel toenam. Dit liet voorvoelen dat de maatschappij op een kantelpunt afstevende waarbij een psychologische 'reorganisatie' van het maatschappelijke systeem zich opdroeg. Met corona gebeurt dit.

611: De psychologische dimensie van de huidige coronacrisis wordt zwaar onderschat. Een crisis werkt als een trauma dat het historische besef van de mens wegneemt. Men ziet het trauma als een gebeurtenis op zich, terwijl het deel uitmaakt van een continu proces. [...] De lockdown bevrijdde de mensen vaak uit een psychische sleur. Dat creëerde een onbewust draagvlak voor de lockdown. Mocht de bevolking haar leven, en vooral haar jobs niet doodmoe geweest zijn, was er nooit een draagvlak voor de lockdown geweest. Tenminste niet naar aanleiding van een pandemie die in vergelijking met de historische, grote pandemieën toch wel hèl goed meevalt. [...] Men wilde dus niet terug naar het pre-corona-normaal. Indien we

het misnoegen van de bevolking over haar bestaan niet in rekening brengen, zullen we deze crisis niet begrijpen en niet kunnen oplossen.

612: In post-modern society, coined by sociologists the »risk society«, people feel threatened by all kinds of invisible risks that exist only in terms of knowledge, which means that all depends on the social construction of that risk. In that respect, the social definition of a specific risk can be manipulated, amplified, magnified, or minimized.

614: According to the first, the law of contagion, things that once have been in contact with each other may influence each other through transfer of some of their properties via an »essence.« This influence remains after the physical contact has ceased, and may be permanent (hence, »once in contact, always in contact«). The »contact« may be directly between an offensive or revered person or animal and a previously neutral object, as when a person grows, cooks, or touches a food. In magical practices, contact is frequently manifested as a personal residue. [...] The »essence« remains in these residues in some form of nonphysical contact with its source.

616: The aspect of disgust that makes the disgusting contaminating and infectious means that disgust behaves somewhat magically in having extraordinary powers of invasiveness and duration. The disgusting can possess us, fill us with creepy, almost eerie feelings of not being quite in control, of being haunted.

630: Bats are believed to be witches in Nigeria, spirits of the dead in the Ivory Coast, criminals in Madagascar (Andrade 2009), and souls of the dead searching for rebirth in old Europe. They are deified in Mayan culture, although the bat god Camazotz is thought to represent some kind of giant vampire bat, and is still associated with death, unfortunately. More broadly, while the Bible describes bats as detestable, unclean birds (Leviticus 11:13–20, Deuteronomy 14:11–19).

631: Unfortunately, fear and disgust for bats are widespread. In a study across UK, India, USA, Holland, Korea, Hong Kong, and Japan, bats fell firmly into the »disgust« category falling behind cockroaches, spiders, beetles, maggots, worms, and leeches, and only just beating out wasps, lizards, rats, mice, and slugs! [...] Bats are frequently paired with scary, negative emotions (e.g., vampires, horror films, haunted houses).

632: As nocturnal, volant mammals, people do not experience bats in the way that they might birds and this has consequences for attitudes. Bat sightings are commonly at a distance and fleeting, while closer encounters may be in a negative or fearful setting, for example as a nuisance in dwellings, and/or may prompt fears of disease.

635: The severe Ebola virus disease epidemic occurring in West Africa stems from a single zoonotic transmission event to a 2-year-old boy in Meliandou, Guinea. [...] Exposure to fruit bats is common in the region, but the index case may have been infected by playing in a hollow tree housing a colony of insectivorous free-tailed bats (*Mops condylurus*).

636: Over the past decades, the emergence of zoonotic viruses (those that are naturally transmitted between vertebrate animals and humans) from bats has been the subject of increasing attention from both scientists and the general public. During outbreaks of diseases in humans and livestock, bats are now often the primary focus of searches for a reservoir host.

637: Perceptions of the threats of bats to people are becoming a major concern because of the, often alarmist, publicity surrounding their role as reservoir hosts in emerging infectious diseases.

638: Although bats have been identified as carriers of many highly virulent human pathogens, evidence of pathogen-related clinical signs or disease in bats is scarce, particularly for intracellular pathogens such as viruses.

639: A recent study put in evidence the natural origin of the virus, which seems to initiate from bats and infected humans through an interspecies spillover process that involves an intermediate host, e.g. snakes.

643: engl.: Of course, doctors are all different; however, they commonly share certain traits, in a higher proportion than in the general population. Perfectionism, which also exists in other professions, is widespread in doctors.

644: A number of core features are found in the majority of physicians, largely because it is difficult to succeed without these psychological characteristics. Perfectionism, for example, is a common theme among medical students and graduate physicians. One might argue that the kind of conscientiousness associated with perfectionism is even necessary to get into medical school and to succeed once there.

645: [...] Personality is at the root of many stress-related health problems. Perfectionism is a personality trait that makes people more vulnerable to stress and less able to handle it. [...] Perfectionists live in a constant state of stress, which leads to emotional, physical and relationship problems, including depression, food disorders, marital conflicts, and even suicide. [...] Perfectionists were more prone to depression when faced with stressful events, especially when they believe that they are not equal to the task.

646: Various theoretical perspectives have linked obsessive-compulsive disorder (OCD) and perfectionism since as early as the 1900s. Early theorists posited that perfectionism was central to the development of OCD. They believed that pathological perfectionism led to an insistence on doing things just right—so much so that it became an obsession and a way to avoid uncertainty.

647: It is clear from the research to date that perfectionism is related to obsessive compulsive symptoms and obsessive compulsive disorder.

648: If a bear is chasing you in the woods, your body releases a flood of anxiety-producing chemicals that make you run faster, think clearer and perform better. If those same chemicals get released when you're sitting on your couch without a clear target to focus on, it creates a terrifying and helpless feeling, and your brain begins »looking« for something to blame the anxiety on (obsessions) and some way to fix them (compulsions). But when a clear external target becomes available, often those with unfocused anxiety suddenly have the opportunity to experience the positive benefits of the anxious chemicals their bodies have been releasing all along.

649: My OCD folks have more obsessive thoughts, need more reassurance, and have escalated their hygienic compulsions...I have one person who can barely leave her home now. This pandemic is only helpful insofar as it has created another opportunity for exposure.

651: Stutman 2020; »Cognitive neuroscience studies have shown that people with OCD have increased insula activation compared to controls and experience heightened levels of disgust. When their feelings of disgust and contamination fears are invalidated this might frustrate them and increase their anxiety. For example, they may question why they are having these exaggerated worries and extreme behaviors and become frustrated that they cannot modulate them. But now that there is a real external threat (i.e. COVID-19), their behaviors and thoughts may feel less abnormal and more accepted by society.

652: The world has now caught up with those with cleaning obsessions. My daughter says she now feels everyone knows what it's like. What everyone else is doing now, she's been doing forever.

653: People with OCD do not need to significantly change their behaviors in response to COVID-19 compared with the precautions they were already taking. However, people without OCD have had to make major adjustments in their behaviors to prevent the spread of the virus, which may have increased their anxiety.

654: Medical problems with gastrointestinal or urological symptoms have large psychological components.

655: I felt really worried and scared the past few days up until now: I was freaking out because I had no control and I shat myself like five times one day because I was so stressed out, but I realized that I have no control and no matter how I feel it won't influence what will happen. So, I can either feel stress and continue to shit myself while nothing changes or accept the circumstances and try to stay calm and look on the bright side while nothing changes.

656: I've been a germaphobe my whole life. I wash my hands all the time and worry if they're clean enough. I walk around feeling anxious every day. I almost never leave the house. Now, everyone is me!«

»For the first time in a long time, his world is the norm...and it feels good to him to belong. It's not that he wishes this situation on anyone; it's just good to feel like he knows how to live in the world the rest of us now find ourselves in. He summed it up to us, as he shared his perspective, »Welcome to my world!

665: Earlier higher quotes of average IFR that were irresponsibly circulated widely in media and social media were probably extremely flawed, as they depended on erroneous modeling assumptions, and/or focused only on selecting mostly studies from countries high death burden (that indeed have higher IFRs), and/or were done by inexperienced authors who used overtly wrong meta-analysis methods in a situation where there is extreme between-study heterogeneity.

669: More than 85 percent of the 5,500 people seeking hospital treatment were found to be psychogenic patients.

670: Mass psychogenic illness can tax the resources of public health agencies and healthcare providers. When it occurs in tandem with a natural or manmade disaster, it can overwhelm health resources, multiplying demand and preventing care from being effectively targeted.

671: What brought the Tokyo hospital system under such pressure was not the truly injured, which hospitals proved more than capable of handling, but the monsoon of psychogenic patients. The first lesson here relates to the importance of getting clear and concise information to those at the scene as well as throughout a stricken city to reduce the anxiety that might cause otherwise healthy people to go to hospitals.

672: ...requires the mastery of verbal performance, including—perhaps most importantly—the ability to use language to index and therefore instantiate already existing inner states of knowledge.

673: Identities function as counters in our social transactions, in that they convey understandings of what those who bear them are expected to do. If an answer to »Who are you?« is »the bartender,« for example, I expect you to know how to mix a martini; if the answer is »a practicing Muslim,« I don't. Moreover, identities also convey understandings of how those who bear them may be treated. If you're my three-year-old son, I can remind you to use the toilet, but if you're my boss, I'd better not. Personal identities thus make intelligible not only how other people are supposed to act, but how we are supposed to act with respect to them.

674: While identities often serve to compress information and help people make sense of themselves and others, they are not merely descriptive: »identities are normatively prescriptive – they tell you what you are supposed to do and how others may, must, or mustn't treat you.

674: Milgram 1965; »Thus, the naive subject must resolve a conflict between two mutually incompatible demands from the social field. He may continue to follow the orders of the experimenter and shock the learner with increasing severity, or he may refuse to follow orders of the experimenter and heed the learner's pleas. The experimenter's authority operates not in a free field, but against ever-mounting countervailing pressures from the person being punished.»

677: With numbing regularity good people were seen to knuckle under the demands of authority and perform actions that were callous and severe. Men who are in everyday life responsible and decent were seduced by the trappings of authority, by the control of their perceptions, and by the uncritical acceptance of the experimenter's definition of the situation, into performing harsh acts. What is the limit of such obedience? At many points we attempted to establish a boundary. Cries from the victim were inserted; not good enough. The victim claimed heart trouble; subjects still shocked him on command. The victim pleaded that he be let free, [...] subjects continued to shock him. [...] The results, as seen and felt in the laboratory, are to this author disturbing. [...] A substantial proportion of people do what they are told to do, irrespective of the content of the act and without limitations of conscience, so long as they perceive that the command comes from a legitimate authority.

678: Civilization means, above all, an unwillingness to inflict unnecessary pain. Within the ambit of the definition, those of us who heedlessly accept the commands of authority cannot yet claim to be civilized men.

679: My partial replication of Milgram's procedure suggests that average Americans react to this laboratory situation today much the way they did 45 years ago. Although changes in societal attitudes can affect behavior, my findings indicate that the same situational factors that affected obedience in Milgram's participants still operate today.

701: Disgust helps mark boundaries of culture and boundaries of the self. The boundaries of the self extend beyond the body to encompass a jurisdictional territory, what Erving Goffman calls a territorial preserve, which may be defined as any space that if intruded upon would engender rightful indignation or disgust in us.

702: The size of this jurisdiction varies by culture, age, gender, class, and status. Generally the higher a person's status, the larger the space within which offenses against that person can take place. In contrast, some people's jurisdiction may not reach beyond their skin, may not even include it: thus in some instances prisoners, slaves, prostitutes, and infants.

703: Adults will typically refuse to consume food any part of which has been in brief contact with a cockroach, and will also reject food they know to have been prepared or bitten by undesirable or disliked persons. Given that unrestrained application of this 'law' would render almost everything we might eat or touch disgusting, various personal and cultural 'framing' strategies have developed which serve to 'negate' this law. [...] Most

individuals employ a strategy of *not* thinking about either the people or conditions present in restaurant kitchens, or the sources or procedures required to provide the animal products they consume.

704: Many cultures have specific social rules which 'determine' the threshold for contamination, but which do not accurately track actual biological properties.

705: People who frequently experience disgust evaluated purity, but not justice, violations as especially worthy of punishment; they also evaluated purity, but not justice, virtues as especially worthy of reward.

706: Disgust was associated with judgments of pure and impure behaviors but not with judgments of just or unjust (Studies 1 and 3) or harmful or caregiving (Study 2) behaviors. Disgust is therefore uniquely associated with the moralization of purity concerns and not of concerns in the realms of justice or harm/care. Just as important is the pattern of results showing that purity judgments were related to only disgust. Anger (Studies 1 and 3), sadness (Study 2), and fear (Study 3) were all unrelated to moral judgments of purity.

707: Physical cleansing alleviates the upsetting consequences of unethical behavior and reduces threats to one's moral self-image. Daily hygiene routines such as washing hands, as simple and benign as they might seem, can deliver a powerful antidote to threatened morality, enabling people to truly wash away their sins.

717: Attempts to alter some eating habits will also be attempts to alter something significant in people's identities.

718: Some of the consequences of decisions taken and advice given are particularly troubling, as they led to distortion of priorities of public health services across Europe, waste of large sums of public money and also unjustified scares and fears about health risks faced by the European public at large. [...] A review is also necessary of the media's role in fuelling fear.

719: Health consequences after disasters cannot be studied without focusing on the role of the mass media. In modern society, the significance of the media in everyday life has increased dramatically, turning the world into a global village. [...] Especially when key events [...] launch new risk issues and uncertainty reigns, the public has to rely on the messages communicated to them by the media. But what do we actually know about the effects of these media messages on the definition of risks, health perception, and personal wellbeing?

720: The media can indeed have an important impact on health problems and on how people view their health problems in the aftermath of disasters. However, only a few studies actually examined associations between the media and health problems following disasters.

721: A potential pandemic matches perfectly with almost all criteria for news value such as: unexpectedness (sudden outbreak) as well as consonance with expectations (a new pandemic was long predicted), intensity increase (growing number of patients and fatalities), negativity (chance of a catastrophe), relevance (actual risks involved), meaningfulness (fear of epidemic, personal risks), unambiguity (flu is well known), continuity (daily updates) and unpredictability (will it be a severe epidemic?).

724: News coverage on viruses typically uses military metaphors.

727: In general, experts discuss several different options, but the media have a bias in favour of the worst-case scenarios, as these have a higher news value. Research on coverage of avian flu in US newspapers showed that worst-case scenarios were present in over 40% of all articles. [...] As a consequence, media coverage on epidemics can be quite alarming. Coverage of avian flu and SARS was often sensationalist, focusing on worst-case scenarios and full of emotionally charged language.

728: During an epidemic, both health authorities and scientific experts play important roles as sources of the news [...] Experts with alarming message are even more attractive for the media (Dearing, 1995; Sandman, 1997). The virologists, who in a concerted campaign warned about the potential hazards of a new pandemic after a new outbreak of bird flu in 2005, received worldwide media attention.

729: In the Netherlands two experts played a key role in the whole coverage, the virologist Professor Osterhaus (Institute of Virology of the Erasmus Medical Centre, Rotterdam) and the director of the Dutch Centre for Infectious Disease Control (RIVM), Professor Coutinho. During the first two weeks Osterhaus (an already well-known expert to the Dutch audience), dominated the coverage with a share of 29% of all statements in the newspapers and even 45% of all statements on the three TV news programmes.

730: During the first two stages hardly any media attention was directed at other experts expressing a critical view on the pandemic.

731: The media were not more alarming as a whole than their sources, which is in contrast with the general perception that the media have a tendency to be alarmist. [...] The expert sources and the public health officials played a dominating role in the coverage, although the variety in sources was limited, comprising only a few wellknown experts. This coincides with other studies showing that statements from regulatory agencies drive the media. [...] Focusing on the two most quoted experts in the media, the conclusion is that their messages were overall very alarming, while other experts were less alarming.

732: Official sources (WHO) and scientific experts were very alarming in their statements with an emphasis on worst-case scenarios, triggering massive media attention all over the world. Intensive news waves can work as feedback loops reinforcing the original message of a devastating pandemic.

734: In order to understand the media hype as a journalistic phenomenon, we have to begin with its trigger event. A trigger event sparks the attention of several media at the same time and allows for the intense coverage of the same news story or event. The trigger event has some quite distinct characteristics to it: it meets all the traditional news values; it taps into an issue that is able to promote debate as it can be seen from several points of view; and finally the trigger event can be related to existing stereotypes and prejudices in order to present a simple and striking image of a complex problem.

735: During a media-hype the new health risk is magnified, creating the perception that this is a very serious risk that needs attention. Media-hypes may also put pressure on the government and public health institutions to take drastic steps in order to handle the alleged threat. If they do so, they will validate the frame of a 'real' crisis. This interaction is described as 'the social amplification of risk', in which this new risk – regardless of the real risks involved – becomes a very important social issue, even a health scare. If many things are uncertain and undetermined, as is the case after the first outbreak of a new virus, an ideal breeding ground for media-hypes and risk amplification appears.

736: The media system is highly self-referential: media tend to follow other media, thereby nourishing the news wave. This is reinforced by the interaction with responding social actors. Often one specific frame becomes dominant in the coverage, because media tend to look for frame-

confirming information and sources.

737: In order for an issue to provoke a media hype it should be able to generate strong emotions. [...] Media hypes create a 'spiral of social amplification' which both transforms single cases to general social problems and mobilizes social outrage. Combining these two observations, one might argue that in order for a subject area to be a 'Petri dish' for repeated media hypes it must be a subject of concern for many members of society.

739: Compared to other risks, an epidemic is a special story, because the fear of a deadly contagion is rooted deeply in Western sociocultural history. An epidemic is not only a public health crisis but also a specific narrative built on iconic images of the medieval plague (Black Death) as well as the Spanish flu following the First World War. All these images will be reactivated in the media after the announcement of the discovery of a new pandemic virus.

743: Severe measures that entail stringent restrictions on freedom of movement and association affecting the right to decent burials can be hugely distressing for families, exacerbating their grief.

745: More families of coronavirus victims are choosing cremation over burial, for fear of catching the virus from the dead. The number of corpses arriving at crematoria in the north of Italy has doubled since the coronavirus outbreak began and the plants in the north of Italy are overwhelmed, even those that work seven days a week, 24 hours a day. [...] in some areas of the north of the country, cremations have exceeded 50-60 percent, that is for every 100 deaths, 50-60 cremations are requested.

746: In areas like Bergamo and Brescia where the number of dead has been particularly high, army trucks had to be called in to assist to take the corpses to other regions where they could be cremated.

747: In Bergamo, a city in Lombardy region with the highest number of COVID-19 cases in Italy, the capacity to manage dead bodies [was] exceeded. The time frame set by law from the death to the burial was up to 48 h. [...] The military stepped in to move about 70 coffins to other provinces and regions for timely burial procedures.

762: YouTube doesn't allow content that spreads medical misinformation that contradicts local health authorities' (LHA) or the World Health Organization's (WHO) medical information about COVID-19.

Claims that approved COVID-19 tests cannot diagnose COVID-19.

Content that claims that COVID-19 is not caused by a viral infection.

Content that claims COVID-19 is not contagious.

Denial that COVID-19 exists.

[...] if the purpose of the content is to condemn, dispute, or satirize misinformation that violates our policies.

767: The right to freedom of expression, including the right to seek, receive and impart information and ideas of all kinds, is a human right which enables everyone to enjoy a range of other human rights, including the right to health. Freedom of expression is vitally important during complex public health crises like the Covid-19 pandemic, because a free flow of accurate, evidence-based and timely information increases awareness about health risks and how to prevent and deal with them. Open debate and scrutiny can ensure higher levels of trust in public health measures and help challenge misinformation and allow the necessary exchange of information to find effective ways of tackling the crisis. Freedom of expression is key to holding governments accountable for their policy responses to the health crisis. Indeed, the ability of everyone to engage in a debate about possible solutions and contribute to the response is a crucial element in overcoming the crisis itself.

768: The right to freedom of expression has been attacked globally in the context of the Covid-19 pandemic and thus increased the dangers posed by the public health crisis. [...] in the current Covid-19 context, governments have curtailed freedom of expression instead of encouraging it. Governments have put up barriers to activities like reporting and sharing opinions and used the pandemic as a pretext to muzzle critical voices. [...] in the name of protecting public health or curbing the spread of »fake news« and to »prevent panic«, some governments have used legislation and other measures to restrict human rights beyond what is permitted under international law. Governments that have long kept a tight control over what is shared in the public domain with overly restrictive legislation, have used the pandemic as another excuse to apply laws to censor and silence criticism, debate, and the sharing of information. [...] In addition, communication channels have been selectively restricted, including by censoring social media, shutting down internet access and closing down media outlets, sometimes as a means to control and punish certain groups and voices, sometimes at sensitive times, such as before and during elections.

769: Across the world, journalists, political activists, medical professionals, whistle-blowers and human rights defenders who expressed critical opinions of their governments' response to the crisis have been censored, harassed, attacked and criminalized. This has contributed to a climate of fear and intimidation that has exacerbated the already widespread uncertainty and sense of fragility created by the pandemic.

771: Mental contamination is an experience in which individuals feel dirty or impure even though they have not come into direct contact with a contaminated object (e.g., merely thinking about something immoral or disgusting). [...] Unlike conventional contamination concerns (e.g., fears of contracting HIV from touching a public restroom doorknob) in which physical contact is made with a contaminated substance or surface (i.e., contact contamination), an individual who experiences MC may feel dirty and contaminated just from imagining a subjectively unpleasant, immoral, or disgusting stimulus or scenario (e.g., »What if I were to commit incest?«, images of feces).

772: MC [Mental Contamination] was also associated with unacceptable thoughts symptoms and relevant cognitive distortions (intolerance of uncertainty and experiential avoidance).

775: Religious individuals who experience an immoral, blasphemous, or sinful thought or urge feel physically contaminated and experience the urge to cleanse themselves; however, the extent to which these associations generalize to other types of »taboo« intrusions in more broad (i.e., non-religious) samples is unknown.

777: ...result in feelings of discomfort, anxiety, and uncleanness, as well as urges to wash, neutralize (e.g., replace a »dirty« thought with a »clean« thought), or avoid situations or thoughts that trigger MC. However, despite the short-term success of these anxiety-reduction and neutralizing behaviors, they fuel the »vicious cycle« of intrusive contamination-related mental experiences in the long-run by serving as reminders of MC and preventing the natural extinction of obsessional distress.

778: Contamination-related threat overestimation, the tendency to overrate the likelihood and severity of contamination resulting from contact with a variety of commonplace objects, is another contamination-related cognition conceptually related to MC.

779: To be sure, the media plays its part in these processes – after all, nothing sells like fear – but while 24/7 cable news channels and social media help fuel the panic, hysteria, and stigma associated with infectious disease outbreaks, journalists and bloggers are, for the most part, merely

messengers. I argue that by alerting us to new sources of infection and framing particular behaviors as 'risky', it is medical science – and the science of epidemiology in particular – that is the ultimate source of these irrational and often prejudicial judgments.

780: Solitary confinement—that is the confinement of a prisoner alone in a cell for all, or nearly all, of the day with minimal environmental stimulation and minimal opportunity for social interaction—can cause severe psychiatric harm. It has indeed long been known that severe restriction of environmental and social stimulation has a profoundly deleterious effect on mental functioning.

781: Mass psychogenic illness (MPI) is not a very rare phenomenon anymore. It is probably more common than the reported incidences and imposes a significant financial burden and unexpected management difficulties for the emergency department.

782: If the external environment is lacking in information, the probability of attending to internal sources of information increases. In addition, the schemas or hypotheses we adopt about our health can result in highly specific monitoring of internal sensations. Further, individuals are much more likely to become aware of sensations that can verify an illness schema than sensations that could disconfirm such a schema.

783: The combination of denial and a moderate level of strain or social influence greatly increased the tendency to become affected.

784: Regardless of how much or how little education we have on various subjects, there is one topic on which each of us is the world's leading expert, and that subject is ourselves. And just as we know a great deal about the public and private sides of ourselves, we know a great deal about that part of ourselves called emotions. We all believe that we know our own emotions and can recognize emotions in other people.

787: Intense fright may immediately and completely inhibit lacteal function in mammals of other species. If severe electrical storms occur in the vicinity of a milk farm while females are nursing their pups, the resultant disturbance produces many cases of eclampsia, failure to nurse, and even infanticide.

788: It must be emphasized that the hypochondriac's suffering is as genuine as it is intense. Such behavior is conditioned and unconsciously learned; the patient is not malingering or dissimulating.

789: It is the general observation that when doctors and patients do not agree on the illness, the prognosis is worse than when there is a consensus.

790: A context of contested causation may have serious negative effects on healthcare for individuals with medically unexplained physical symptoms.

791: Contested causation may occur publicly and involve media controversy, scientific disagreement, political debate, and legal struggles.

792: Fears of illness/injury and medical care were associated with self-rated health status and the presence of chronic medical conditions. This suggests that such fears may be a response to illness in vulnerable individuals. Hypochondriasis, which overlaps with illness phobia, has been linked to experience with illness, and data obtained from studies of twins suggest that random traumatic events and some social learning may contribute to fear of illness.

793: (...) experienced disgust causes negative interpretational bias that may enhance threat perceptions.

795: Excessive fear may lead to unnecessary care and iatrogenic complications, which are often seen in patients with hypochondriasis and other somatoform disorders.

796: Many countries may count some spurious COVID-19 deaths. Death certificates are notoriously error-prone in general and may be even more error-prone with COVID-19. Adherence to stringent clinical case definitions plus imaging/pathology documentation for SARS-CoV-2 causal impact is often lacking.

In high-income countries, almost all the deceased have known comorbidities, raising causality debates on whether some deaths are with rather than by COVID-19. Deaths in people without documented comorbidities are more frequent in low- and mid-income countries, but perhaps comorbidities remained undetected in resource-poor settings.

799: Disease phobia is a variety of hypochondriasis and the term is used here to mean »a persistent, unfounded fear of suffering from a disease, with some doubt remaining despite examination and reassurance.

801: Phobias of illness often occur in response to serious illness events in oneself or others. Reactions of this kind have been described, but there is little information concerning their frequency, the illnesses that are likely to provoke them, the patients that are likely to have these reactions, and what aspects of the illness experience are most important. Illnesses that are associated with sudden, catastrophic events (eg, bronchial asthma) seem to produce a phobic response in some patients. But, the illness or death of a loved one may cause this response as well.

802: Wariness of disease and sensitivity to disgust are highly variable from person to person. This fact has interesting implications. Regardless of the reasons underlying these individual differences, a greater chronic wariness or sensitivity to the threat of disease is expected to compel a more powerful prejudicial response to individuals—such as those with physical disabilities—who superficially seem to pose such a threat.

803: Episodes [of mass psychogenic illness] are also distinguishable by the redefinition of mundane objects, events, and circumstances and reflect a rapidly spreading folk belief, which contributes to an emerging definition of the situation.

804: The very existence of a discrete category of somatoform disorders in psychiatric nosology implies a separation of affective, anxiety, dissociative, and somatic symptoms that is not reflected in the co-occurrence of these symptoms in syndromes worldwide. This separation largely reflects the persistent mind-body dualism of Western medicine: Psychiatric disorders are perceived as mental disorders, notwithstanding their prominent somatic symptoms.

805: Hypochondriacal patients can be thought of as people seeking the sick role, with all its attendant benefits and privileges (which include sanctioning failure, entitlement to special assistance, and the power to control and manipulate others).

806: But one cannot gain access to the sick role unilaterally; one must be admitted to it by a physician. To be considered by others to be »legitimately» sick, the individual must become a patient and obtain a doctor, get a diagnosis, and receive ongoing treatment.

814: In the United States, influenza virus circulation declined sharply within 2 weeks of the COVID-19 emergency declaration [...]. The decline in influenza virus circulation observed in the United States also occurred in other Northern Hemisphere countries and the tropics, and the Southern Hemisphere temperate climates have had virtually no influenza circulation.

815: There were no hospitalised cases of influenza reported by EU/EEA countries in the 2020-21 season and neither were there any fatalities from influenza reported this season.

818: Kirmayer 1998; »Because plausible physiological explanations usually can be generated for »medically unexplained« symptoms, it is often a matter of preference or prejudice whether a given »unexplained« symptom is attributed to disturbed sleep, stress, tension, emotional conflict, or exaggerated complaining. Clinicians' willingness to assume that a medical explanation exists, even if it cannot be confirmed, depends on current diagnostic fashion, personal and professional experiences, as well as the credibility of individual patients.«

819: Nothing in doctors' medical training has prepared them for patients who bring to the consultation not just symptoms but ready-made disease labels: »Doctor, I know I've got ME.« This is historically unprecedented: an efflorescence of fervently-held disease attributions in patients who are not merely symptomatic but morally certain that they know what they have, usually a pseudo-disease that does not exist.

820: Undoubtedly, many patients are veritable textbooks of non-disease, harboring many incorrect notions about the causes and implications of their symptoms.

821: Travesty has replaced science.

822: In past times, physicians were able to contain the eruption of symptoms they knew to be without an organic basis through the therapeutic use of the doctor-patient relationship. [...] A trusting dialogue arose between doctor and patient. These years were a kind of golden era, the physician-despite his therapeutic helplessness in the face of most diseases-able to relieve psychosomatic illness by virtue of the confidence vested in him [...]. In that bygone era before the Second World War patient attribution of illness to pseudo-disease seemed to have a kind of natural cycle. New disease labels [...] would arrive, haunt the consulting room for a few years [...], and then noiselessly depart. [...] Once a new disease was considered a form of hysteria, it would be discarded and the cycle of psychosomatic illness would roll on to the next new label. [...] It was a natural cycle that rolled through at least two centuries of history.

823: Supposed new diseases [...] are no longer buried after their scientific demise. They continue to flourish in the subcultures of hypochondriasis that form within patient support groups. [...] The mainline press as well has picked up these goofy illness attributions, broadcasting to millions the news that official medicine is too closed-minded to recognize the organic truth.

824: Anecdotes from patients who feel their symptoms and concerns have been discounted by an unfeeling government clinician become grist for media and political mills. The anecdotes multiply, grow and then infect the network of concerned individuals, sensitizing them to otherwise normal bodily symptoms.

825: The suggestive effect of such misinformation is incalculable. Stories of celebrated public figures with ME have an electrifying effect upon the patients' world. Sufferers of vague and non-specific symptoms take such tales as evidence that they are »really sick«, relieved that their problems are not »all in my head«.

826: One is the tremendous loss of prestige the medical profession has endured in the last 30 years, which has entailed the loss of one of the most precious therapeutic components of the doctor-patient relationship: the ability to reassure.

827: In the world of pseudo-disease this loss of prestige has had devastating consequences, as patients haul about copies of their lab results in their pocketbooks, unable to trust the doctor's interpretation and continually avid for a fifth or sixth opinion.

828: A second circumstance is the enhanced power of the media, which is replacing the physician as the patient's most trusted source of medical authority. [...] Patients become stoked into chronic anxiety about the disease-of-the-month, given that the media take the new pseudo-diseases to be absolutely true-bill.

829: And where do these reporters find their medical 'experts'? This brings us to the final circumstance in the epidemic of illness attribution: a fringe of physician advocates themselves who feed the frenzy by conferring upon patients these toxic new diagnoses and by serving the media as sources of authority. Thus the headline »Doctors say chronic fatigue is real« can always be bolstered by interviewing at least one cranky figure who believes, or pretends to believe, in the disease of the month.

830: How long it takes to recover from COVID-19 is different for everybody. Many people feel better in a few days or weeks and most will make a full recovery within 12 weeks. But for some people, symptoms can last longer. The chances of having long-term symptoms does not seem to be linked to how ill you are when you first get COVID-19. People who had mild symptoms at first can still have long-term problems.

831: Extreme tiredness (fatigue), shortness of breath, chest pain or tightness, problems with memory and concentration (»brain fog«), difficulty sleeping (insomnia), heart palpitations, dizziness, pins and needles, joint pain, depression and anxiety, tinnitus, earaches, feeling sick, diarrhoea, stomach aches, loss of appetite, a high temperature, cough, headaches, sore throat, changes to sense of smell or taste, rashes.

838: In some cases, long COVID could mean lifelong COVID. The effects can be horrible. Among them are lung damage, heart damage and brain damage that can cause memory loss and brain fog, kidney damage, severe headaches, muscle and joint pain, loss of taste and smell, anxiety, depression and, above all, fatigue. We should all fear the lasting consequences of this pandemic.

839: Every new diagnosis that floats through the media seems to catch the medical profession off guard. Out of the blue arrive bizarre new illness attributions, held as articles of faith by the patients but supported neither by scientific evidence nor the patina of plausibility. You as a patient have typed too long at the computer? You've got repetition strain injury, necessitating that you go on disability. The carpeting in your building contains formaldehyde? You've got Sick Building Syndrome, a disorder now rapidly spreading in the North American workplace as employees stagger from their desks dizzy and nauseated. Feeling perpetually weary and unable to concentrate? You've got ME, or Chronic Fatigue Syndrome, the result of a mystery virus that seems to affect mainly middle-class females.

840: A 24-year-old cleaner had an argument with his boss. Shortly afterwards he developed weakness of his right arm and an inability to talk. He was brought to an accident and emergency department. A full neurological examination, including a number of blood tests and a lumbar puncture, showed no specific abnormalities. His computed tomography (CT) and magnetic resonance imaging (MRI) scans were normal. **His symptoms did not improve after a week in hospital.** Finally, he was offered two sessions of [hypnosis](#). His symptoms resolved completely at the end of the second session.

841: It is always preferable to be able to blame our problems on biology, genetics, biochemistry neurology, society or others than to take personal

responsibility for their presence and amelioration. That's human nature. [...] No one wants to hear that their physical suffering is »all in your head.« Which is how a diagnosis of Conversion Disorder is commonly taken. They experience such diagnostic explanations as dismissive and demeaning of their physical suffering. Which is very real. And they resist any notion of the existence of some unknown, »unconscious« part of themselves that could be capable of abruptly producing such devastating physical symptoms against their conscious will. Yet, incredible as it sounds, that may very well be precisely what is happening.

843: IL-1 β has been implicated in a wide range of behaviors. Early studies implicated this cytokine in a specific behavioral complex, sickness behavior, which is characterized by sleep disorders, anxiety, and diminished social interactions.

844: Cytokine storm and cytokine release syndrome are life-threatening systemic inflammatory syndromes involving elevated levels of circulating cytokines and immune-cell hyperactivation that can be triggered by various therapies, pathogens, cancers, autoimmune conditions, and monogenic disorders. [...] In many forms of cytokine storm, macrophages become activated and secrete excessive amounts of cytokines, ultimately causing severe tissue damage that can lead to organ failure. [...] Nearly all patients with cytokine storm are febrile, and the fever may be high grade in severe cases. In addition, patients may have fatigue, anorexia, headache, rash, diarrhea, arthralgia, myalgia, and neuropsychiatric findings. [...] Cases can progress rapidly to disseminated intravascular coagulation with either vascular occlusion or catastrophic hemorrhages, dyspnea, hypoxemia, hypotension, hemostatic imbalance, vasodilatory shock, and death. Many patients have respiratory symptoms, including cough and tachypnea, that can progress to acute respiratory distress syndrome (ARDS), with hypoxemia that may require mechanical ventilation.

845: Circulating cytokine levels can be difficult to measure because cytokines have short half-lives, circulating levels may not accurately reflect local tissue levels, and measurements may not be easily obtained worldwide.

846: From a historical perspective, cytokine storm was previously referred to as an influenza-like syndrome [...].

848: An altered cytokine production can provoke a cascade of detrimental effects on immunological and inflammatory responses that might contribute to the development of infectious diseases and progression of autoimmunity.

849: [...] the immune response to the pathogen, but not the pathogen itself, can contribute to multiorgan dysfunction and that similar cytokine storm syndromes could occur with no obvious infection [...].

850: Immune hyperactivation in cytokine storm can occur as a result of inappropriate triggering or danger sensing, with a response initiated in the absence of a pathogen.

851: Chronic lung disease and, to a lesser extent, neurological diseases (eg, stroke) are associated with anxiety disorders. In fact, the breathlessness associated with emphysema often evokes a fearful reaction (ie, fear of exertion, leaving home, and being alone) that is best characterized as a specific phobia of illness.

852: A number of psychological conditions are associated with inflammation, suggesting that these may also be significant risk factors for negative outcomes of COVID-19. [...] we evaluate preclinical and clinical literature suggesting that chronic stress-induced hyperinflammation interacts synergistically with COVID-19-related inflammation, contributing to a potentially fatal cytokine storm syndrome.

858: Looking at the cytokine storm and mass hysteria analogy further in depth, it is noteworthy to find that error and misinformation act in a similarly vicarious way as T-helper type 1 hyper response, with high levels of interleukin 1 Beta (IL-1 β) and interferon gamma (IFN- γ), among others.

859: We noted that patients infected with 2019-nCoV also had high amounts of IL1B, IFN γ , IP10, and MCP1, probably leading to activated T-helper-1 (Th1) cell responses.

860: Covid-19, which is caused by SARS-CoV-2, is characterized by heterogeneous symptoms ranging from mild fatigue to life-threatening pneumonia, cytokine storm, and multiorgan failure. Cytokine storm was also reported in patients with SARS and was associated with poor outcomes. Although the mechanisms of lung injury and multiorgan failure in Covid-19 are still under investigation, reports of hemophagocytosis and elevated cytokine levels [...] in affected patients, particularly those who are the most severely ill, suggest that cytokine storm may contribute to the pathogenesis of Covid-19.

861: Some COVID-19 patients encounter a severe symptom of acute respiratory distress syndrome (ARDS) with high mortality. This high severity is dependent on a cytokine storm.

862: Coronavirus disease 2019 (COVID-19) activates similar inflammatory responses as chronic stress, leading to a cytokine storm.

863: Mortality in COVID-19 patients has been linked to the presence of the so-called »cytokine storm« induced by the virus.

865: Whilst there is no difference in the proportion of males and females with confirmed COVID-19, male patients have almost three times the odds of requiring intensive treatment unit (ITU) admission (OR =2.84; 95% CI =2.06, 3.92) and higher odds of death (OR =1.39; 95% CI = 1.31, 1.47) compared to females. With few exceptions, the sex bias observed in COVID-19 is a worldwide phenomenon.

871: The evidence thus far does not point to any increase in child and youth mortality related to the COVID-19 pandemic in 2020. [...] Excess mortality analysis considers all deaths that have occurred in a specific time and place, and thus should capture both direct COVID-19 deaths and any indirect deaths resulting from pandemic-related disruptions. That analysis, which included empirical data on mortality in 2020 from more than 80 countries and areas, found no evidence of significant excess mortality among those under age 25.

875: ...most of the children reported to have died from COVID-19 had pre-existing serious comorbidities.

876: PMD [psychogenic movement disorders] diagnoses are relatively common in adults but less so in children.

877: Conversion disorder in young children is rare. It typically emerges in adolescent to early adulthood.

878: We observed that the immune responses of children to COVID-19 infection is significantly different from that seen in adults. Our evidence suggests that SARS-CoV-2 does not trigger a robust inflammatory response or 'cytokine storm' in children with COVID-19, and this may underlie the generally better outcomes seen in children with this disease.

880: In developing countries, where health care resources are already strained and the general population is frequently weakened by poor health and

nutritional status, the impact is likely to be greatest.

882: Despite the extensive spread of the virus, the mortality toll remains highly concentrated in high-income countries. Developing countries represent 85 percent of the global population, but only 21 percent of the pandemic's death toll. This unusual inequality creates the impression that the world is subjected to two different pandemics in terms of their impact.

883: As India skyrockets past 1 million coronavirus cases, a mystery surrounds death toll. India has arrived at this milestone with about half the number of deaths--25,000--as [the U.S. and Brazil] recorded at the same point in their outbreaks.

885: We argue that this difference is unlikely due to Mumbai dramatically undercounting its COVID-19 fatalities, an especially weak strain of the virus that is only in Southeast Asia, or some unique genetic factors among Indian slum dwellers. Instead, it is likely that socio-economic factors played a non-trivial role in this surprising outcome. In New York City, becoming ill with COVID-19 meant a shift in behavior, involving quarantine. In the crowded Mumbai slums, social distancing was impossible, and the lockdown threatened residents with starvation. The stresses in each city were different. In the Mumbai slums, fear of starvation overrode concerns about COVID illness. Doctors know that many COVID-related deaths are due to immune-system overreaction, including »cytokine storms,« but they do not know what causes such overreaction. There is meanwhile a rich medical literature linking immunological dysfunction to certain kinds of stress. These two bodies of medical knowledge have not yet been linked.

886: Britain, Spain, Italy, Belgium and Portugal have some of the highest national excess-mortality rates in the world, after adjusting for the size of their populations. These countries also suffered a second wave of deaths in the autumn and winter of 2020.

887: Countries in northern Europe have generally experienced much lower mortality rates throughout the pandemic. Some Nordic nations have experienced almost no excess deaths at all. The exception is Sweden, which imposed some of the continent's least restrictive social-distancing measures during the first wave.

891: The results of this study indicate that ethnic status plays a significant role in the responses of general practice patients. [...] Greek patients show greater evidence of hypochondriacal attitudes. [...] They display more evidence of disease conviction, particularly if they are older [...]. Finally, Greek patients, especially males, are less likely to adopt a psychological explanation of illness (Scale 3) than either Anglo-Saxon or Anglo-Greek patients.

892: The illness behavior of the Irish and the Italians has been explained in terms of two of the more generally prescribed defense mechanisms of their respective cultures—with the Irish handling their troubles by denial and the Italians theirs by dramatization.

894: Although fear and anxiety do exist in Denmark, the Danes seem to feel more secure at home and in the public sphere than any other population in Europe.

903: The fear of contamination is the most fascinating of all human fears. It is complex, powerful, probably universal, easily provoked, intense, difficult to control, extraordinarily persistent, variable in content, evident in all societies, often culturally accepted and even prescribed, tinged with magical thinking and full of psychological twists and turns. The fear spreads rapidly and widely, does not decay and is usually caused by physical contact with a contaminant. Surprisingly, a fear of contamination can also be established without physical contact. Abnormally strong fears of contamination are unyielding, expansive, persistent, commanding, contagious, and resistant to ordinary cleaning.

905: Some who like compromises may argue that these two explanations are not exclusive, that there may have been a »gasser« at first even though the later spread of the symptoms was an hysterical phenomenon. The »anesthetist« soon become scared and ceased his fiendish activities. We may grant the charm of compromise as a general thing but insist that the above arguments still hold—for the first part of the episode as well as the last. The hypothesis of hysteria fits all the evidence, without remainder.

910: The prevalence of 'threat' within the modern sociocultural climate is likely to increase the incidence of the condition, and this could result in serious implications for health services.

911: A holistic approach entailing the collaboration of various public sectors performing a range of preventive activities will be required to contain future mass psychogenic reactions.

912: Although the underlying dynamics that initiate and perpetuate mass hysteria are poorly understood, its prompt diagnosis allows physicians to avoid unnecessary tests and treatments, and reassures both the affected individuals and the public. Simple as this may sound, it is quite problematic as controversy often surrounds outbreaks, and time is needed to analyze environmental and medical test results. Managing suspected outbreaks will require close collaboration between public health officials, emergency response services, and general physicians.

914: A morally civilized society must fight the power of disgust because this emotion constitutes a barrier to the full equality and mutual respect of all citizens.

915: The influenza epidemic of 1918–1919 remains something of a mystery to this day. Clearly it was not an ordinary flu epidemic, for although the percentage of those exposed and then infected was not unusually high, the death rate was far greater than physicians had seen on other occasions.

918: The origin of this pandemic has always been disputed and may never be resolved.

919: The »Spanish« influenza pandemic of 1918–1919 [...] remains an ominous warning to public health. Many questions about its origins, its unusual epidemiologic features, and the basis of its pathogenicity remain unanswered.

920: The 'influence' in influenza is still veiled in mystery.

921: The pandemic influenza virus of 1918–1919 killed an estimated 20 to 50 million people worldwide.

922: The 1918 H1N1 flu pandemic, sometimes referred to as the »Spanish flu,« killed an estimated 50 million people worldwide, including an estimated 675,000 people in the United States. An unusual characteristic of this virus was the high death rate it caused among healthy adults 15 to 34 years of age. [...] A comparable death rate has not been observed during any of the known flu seasons or pandemics that have occurred either prior to or following the 1918 pandemic.

The virus' unique severity puzzled researchers for decades, and prompted several questions, such as »Why was the 1918 virus so deadly?«, »Where did the virus originate from?«, and »What can the public health community learn from the 1918 virus to better prepare for and defend against future

pandemics?

923: The curve of influenza deaths by age at death has historically, for at least 150 years, been U-shaped (Figure 2), exhibiting mortality peaks in the very young and the very old, with a comparatively low frequency of deaths at all ages in between. In contrast, age-specific death rates in the 1918 pandemic exhibited a distinct pattern that has not been documented before or since: a »W-shaped« curve, similar to the familiar U-shaped curve but with the addition of a third (middle) distinct peak of deaths in young adults ≈20–40 years of age. Influenza and pneumonia death rates for those 15–34 years of age in 1918–1919, for example, were >20 times higher than in previous years. Overall, nearly half of the influenza-related deaths in the 1918 pandemic were in young adults 20–40 years of age, a phenomenon unique to that pandemic year. The 1918 pandemic is also unique among influenza pandemics in that absolute risk of influenza death was higher in those <65 years of age than in those >65; persons <65 years of age accounted for >99% of all excess influenza-related deaths in 1918–1919.

924: This abnormal mortality pattern was observed both in cities and rural areas, in major European metropolises and distant outposts of empire. In other words, it was the same everywhere. Why this should have been the case has never been satisfactorily explained. [...] No matter where the flu struck, the mortality fell most heavily on twenty-to-forty-year-olds.

925: Whether or not these pneumonias were primarily viral or bacterial, or a mixture of both, does not answer the question why the Spanish flu proved so deadly to young adults in the prime of life, however. Here, present-day science has several hypotheses but no good answers.

927: No letter to my beloved for two days. No cool days, no cool nights, no drinks, no movies, no dances, no club, no pretty women, no shower bath, no poker, no people, no fun, no joy, no nothing save heat and blistering sun and scorching winds and sweat and dust and thirst and long and stifling nights and working all hours and lonesomeness and general hell - that's Fort Riley, Kansas.

928: These successive outbreaks tended to be progressively more severe both in character and extent, which would speak for an increasing virulence of the causative agent.

942: These men start with what appears to be an ordinary attack of LaGrippe or Influenza, and when brought to the Hosp. they very rapidly develop the most vicious type of Pneumonia that has ever been seen. Two hours after admission they have the Mahogany spots over the cheek bones, and a few hours later you can begin to see the Cyanosis extending from their ears and spreading all over the face, until it is hard to distinguish the coloured men from the white. [...] One could stand it to see one, two or twenty men die, but to see these poor devils dropping like flies [...] is horrible.

944: One suggestion is that the pneumonias and symptoms of cyanosis may have been due to an overly exuberant immune response involving the release of proinflammatory cells called cytokines. This phenomenon - known as a 'cytokine storm' - was implicated in the deaths from ARDS that followed the H5N1 bird flu outbreaks in Southeast Asia in the early 2000s, and has also been observed with other epidemic viruses such as SARS.

945: The death rate was shown to have a high correlation with the cardiac stroke volume; young men, having higher stroke volumes, forced more plasma and red cells through the virus-damaged alveolar walls, thereby producing a very high incidence of fatal pneumonia.

951: SARS-CoV-2 infection rates among mineworkers exceed the population rates in the provinces in which those mines are located.

952: It is a known fault of men that they like to spit into dark corners... the General Electric Company, in promoting an anti-spitting campaign in an effort to check the influenza, has hit upon a scheme that is said to be working extremely well in checking spitting in corners.

957: Why is the city library closed? Because they found influenza in the dictionary.

958: Last night as I lay trying to go to sleep the words »Spanish Flu« drifted up to my ear from the conversation of passerby. And the last I remembered was my mind was working double shifts on Spanish Flu. This morning I woke up an hour late, and my first thought was »I wonder if that's a symptom of Spanish flu. The toothpaste didn't taste right? Spanish Flu. The bath soap burned my eyes? Spanish Flu. My beard seemed to have grown pretty fast and tough overnight? Spanish Flu. Breakfast didn't seem to have its regular taste? Spanish Flu. On the way to work I heard coughs and sneezes of other people? Spanish Flu. I felt like coughing and sneezing? Spanish Flu. All day at work I thought? Spanish Flu? and here I finish the day with type chirping about Spanish Flu!

959: The impact of the influenza pandemic is almost impossible to conceive. Financially, millions, if not hundreds of millions of dollars were lost across the country as a result of factory shutdowns, store closings, and temporary layoffs. Life insurance claims numbering in the tens of thousands overwhelmed many insurance companies. Across the country, schools closed, public gatherings were banned and special restrictions were placed on restaurants. [...] Vaccines were tested in cities and rural towns, as well as many new unproven methods of treatment.

961: Observing a friend become sick was the best predictor of the development of symptoms.

963: Reported symptoms differed dramatically between companies, even if they were housed in the same building or training subdivision. A significant toxic exposure might have been expected to have produced a narrower range and a more uniform [...] distribution of symptoms. Other recently reported epidemics have included a wide array of symptoms [...].

964: Mass psychogenic illness is a profound medical threat to the military and other crowded populations.

965: High levels of somatic distress in multiple functional systems can arise from processes of somatic amplification involving vicious circles of emotional arousal, bodily focused attention, symptom attribution, and cognitive appraisal. These psychological processes are embedded in interpersonal and wider social processes that reinforce pathologizing symptom attributions and sick role behavior.

966: ...may focus exclusively on the somatic dimensions and so contribute to patients' bodily preoccupation. In such cases, it is the clinician, not the patient, who fairly can be said to be somatizing.

968: The next experiment was designed to imitate the natural way in which influenza spreads, at least the way in which we believe influenza spreads, and I have no doubt it does—by human contact.

969: I think we must be very careful not to draw any positive conclusions from negative results of this kind. Many factors must be considered. Our volunteers may not have been susceptible. They may have been immune. They had been exposed as all the rest of the people had been exposed to the disease, although they gave no clinical history of an attack.

970: Dr. McCoy, who with Dr. Richey, did a similar series of experiments on Goat Island, San Francisco, used volunteers who, so far as known, had

not been exposed to the outbreak at all, also had negative results, that is, they were unable to reproduce the disease. Perhaps there are factors, or a factor, in the transmission of influenza that we do not know.

971: We entered the outbreak with a notion that we knew the cause of the disease, and were quite sure we knew how it was transmitted from person to person. Perhaps, if we have learned anything, it is that we are not quite sure what we know about the disease.

972: The nasal application of a filtrate from a pneumonic lung of an individual dead from typical influenza bronchopneumonia failed to call forth any abnormal symptoms.

973: Experiments indicate that the disease is apparently not due to a filtrable virus.

974: We have moved ever further from certainty about the determinants of, and possibilities for pandemic emergence.

980: Many historical anecdotes suggest that people do react especially strongly to visible signs of disease. People with diseases that are accompanied by visible symptoms (e.g., leprosy) tend to arouse stronger anti-social responses than people with diseases that are more easily concealed. Indeed, [...] list »visibility-concealability« as one of the psychologically most important dimensions of stigma, with the implication that more visible stigmatizing conditions have greater negative impact. Similar anti-social responses to visible indicators of disease are observed in nonhuman primates as well. For instance, Goodall observed that chimpanzees maintained physical distance from other chimpanzees that, as the result of polio, had lost the use of some of their limbs.

993: Trait disgust sensitivity (DS) [...] predicted greater condemnation of criminal activity. High DS participants in the role of mock jurors were more likely to find a suspect guilty of a crime for which the evidence was ambiguous, to impose harsher sentences, and to consider the suspect evil. They also tended toward inflated perceptions of criminal activity in their own communities.

994: It is fair to state that the Sterilization act is not a product of Hitler's regime, in that its main tenets were proposed and considered several years earlier, before the Nazi regime took possession of Germany.

995: It will be seen that this law is very precise and, as appears later, conforms closely with the present knowledge of medical eugenics. The law is hedged around with safeguards and official intervention. Provisions are made for trial, appeal, and execution of the law with characteristic German thoroughness.

999: From one point of view, it is merely an accident that it happened to be the Hitler administration which was ready to put into effect the recommendations of the specialists.

1001: A satisfactory eugenic success in the heredity-circle of schizophrenia cannot be secured without systematic preventive measures among the tainted children and siblings of schizophrenics. Especially inadvisable are the marriages of schizoid eccentrics and borderline cases, when contracted with individuals who either manifest certain symptoms of a schizophrenic taint themselves or prove to belong to a strongly tainted family.

1003: So the place for euthanasia, I believe, is for the completely hopeless defective: nature's mistake; something we hustle out of sight, which should not have been seen at all.

1005: ...namely, the 'fondness' of the parents of an idiot and their 'want' that he should be kept alive. It is this parental state of mind that we believe deserves study – [...] whether it can be assessed as healthy or morbid, and whether in the latter case it is modifiable by exposure to mental hygiene principles.

1011: Not only is disgust intrinsically dehumanizing in this way, but it appears to be uniquely so; most of these empirical results are comparative, and show that other related emotions like anger and contempt do not have similarly disruptive effects on social cognition. This is perhaps due to disgust's distinctive evolutionary roots in dealing with poisons and parasites rather than navigating the subtleties of interpersonal interactions and the social world. Whatever the ultimate explanation, it remains that making an individual, or group of people, into an object of disgust makes it difficult to think of them as fully human and deserving of full moral status. Once they are seen as disgusting, they become easier to dismiss, to demonize, and to treat hideously; that which is gross is disposable.

1015: In language, Bein explains, thoughts and conceptions are mirrored. Nazism crept into the flesh and blood of the masses by means of »single words, terms and phrases, and stock expressions« which, imposed upon the people a million times over in continuous reiteration, were »mechanically and unconsciously absorbed by them.« The presentation of Jews as corroding and poison parasites as vermin, bacteria and bacilli—everywhere infecting and striving to destroy the body of the German people—»paralyzed any internal resistance on the part of the masses.

1016: It is not possible to see in Mein Kampf [...] a set of plans or a blueprint for mass murder in any specific way. [...] But, equally, we should not regard Hitler's metaphors merely as metaphors: for him, they described reality.

1017: The Final Solution grew out of a fantasy present in the mind of Hitler, Nazi leaders and many other Germans. This fantasy revolved around the nation as a body politic confronted with a threat to its existence in the form of a deadly disease, the Jew. The disease within Germany was described concretely—as the invasion of the body politic by bacteria, viruses, and parasites.

1020: He would walk down a ward, come up quietly behind patients, and either clap his hands or pinch the patients. If they jumped in response, they had enough life in them to merit lobotomy. If they did not jump, they were already so subdued that damaging their frontal lobes would not accomplish anything.

1022: Had the profession taken a strong stand against the mass killing of sick Germans before the war, it is conceivable that the entire idea of technique of death factories of genocide would not have taken place.

1023: In the Nazi ideology, the Jews became »pests« or »vermin«. In psychiatric ideology, patients become »diseases« or biochemical and genetic aberrations. Devoid of inherent value, they become suitable for various inhumane solutions, including involuntary treatment and, ultimately, sterilization and extermination. It seems necessary to conclude that the inherent, basic principles of psychiatry were not only consistent with Nazi totalitarian and racist aims, but anticipated, encouraged and paved the way for Hitler's eugenical and euthanasia programs. Without psychiatry, the holocaust would probably not have taken place.

1028: Originally intended for the sick and disabled only, many of the first transports from the camps to the killing centers included patients identified as having TB.

- 1029: Prejudice against a person with a disability— even one sustained from an injury—is intensified by concerns about contagious disease.
- 1030: Any contextual information that makes one feel temporarily more vulnerable to the transmission of disease may also lead to more negative reactions toward and avoidance of individuals with physical disabilities.
- 1032: Doctors were not unwitting victims, but rather active and responsible agents committed to hygienic theories that legitimized Nazi racial ideology.
- 1038: This theme of treating society at the expense of the individual was central to the perversion of medicine.
- 1044: The scarcity of medical resistance to the Nazi regime has been explored, but remains a troubling mystery.
- 1045: Almost no one stopped to think that something could be wrong with psychiatry, with anthropology, or with behavioral science. The international scientific establishment reassured their German colleagues that it had indeed been the unpardonable misconduct of a few individuals, but that it lay outside the scope of science. The pattern of German anthropology, psychiatry and behavioral science continued essentially unchanged, and it will continue so, unless a substantial number of scientists begin to have doubts and to ask questions.
- 1046: The tragedy is that the psychiatrists did not have to have an order. They acted on their own. They were not carrying out a death sentence pronounced by someone else. They were the legislators who laid down the rules for deciding who was to die; they were the administrators who worked out the procedures, provided the patients and places, and decided the methods of killing; they pronounced a sentence of life or death in every individual case; they were the executioners who carried out or - without being coerced to do so - surrendered their patients to be killed in other institutions; they supervised and often watched the slow deaths.
- 1051: Psychiatry is, and should forever be, a science dunked in the milk of human kindness. Does anyone really think that the German nation is in any way improved, ennobled, made more civilized by inflicting what they cynically choose to call mercy deaths on the feeble-minded?
- 1054: A number of historians have pointed out that the scientific bureaucratization of murder was a unique quality of the Holocaust; but none seem to have given credit to the source. Bureaucratic, scientific killing was invented and first implemented by organized psychiatry.
- 1055: One German rationale for the creation of ghettos was based on the racist belief that Jews were the carriers of disease, especially typhus, and TB. German propaganda conflated Jews with disease and identified them as »plague-boils«. Many German doctors thus conceived ghettoization in part as a public health measure to protect the German and Polish populations from lethal epidemics that they argued the Jews spread.
- 1057: Give me these sick people, and perhaps it will be possible to save the healthy in their place.
- 1058: Health care management in all of the ghettos was only a temporary solution to the epidemic outbreaks ghetto life stimulated. In the end, Nazi medicine eradicated the disease by eliminating human life.
- 1061: The camp system was established in 1933 to create discipline and control in the Third Reich; it expanded throughout the war to institutionalize brutality, economic exploitation, and genocide ending in 1945 in complete chaos and exposing the Holocaust.
- 1062: By inhibiting typical mentalizing processes, disgust may lead to the acceptance of treatment that would normally only be permitted in the case of objects or nonsentient beings. [...] Failure to attribute uniquely human traits to an agent (or group) leads to *animalistic* dehumanization in which the target is perceived as crude, savage, and similar to nonhuman animals. This form of dehumanization has clear ties to disgust.
- 1065: Disgust may be both an antecedent and a consequence of dehumanization. Animalistic dehumanization—by highlighting creaturely, base properties of the target—may trigger feelings of disgust and revulsion. Conversely, feelings of disgust—by motivating social distance—may interfere with mentalizing processes, thereby leading to dehumanization.
- 1068: In the concentration camps prisoners were selected by the same medical consultants who were simultaneously sitting over the destiny of mental institution inmates.
- 1070: The Holocaust would appear as a national healing exercise to the perpetrators and their audience.
- 1073: The common approach is to let soldiers indulge in alcohol and partying after the killing actions and to allow (directly or indirectly) a certain amount of sadistic violence. [...] A couple of examples: the men of Police Battalion 101 were offered massive amounts of alcohol both during and after their major actions; Tutsi [sic] forces arranged large parties on the evenings after the massacres.
- 1079: When perpetrators feel disgust in situations of mass atrocity, they are not inspired to moral action; on the contrary, they are primarily motivated to find ways to overcome the disgust, which they tend to identify as an emotional weakness. The perpetrator's response to his feeling of disgust therefore often results not in a decrease but in an increase of violence.
- 1080: The destructive view of disgust emphasizes that even in cases where perpetrator disgust reflects a moral disgust, the recognition of the suffering and destruction of the other does not motivate pro-social action; instead it easily transforms into self-pity and leads to increased harm to the other.
- 1081: A striking conclusion from many case studies of perpetrator disgust is that perpetrators overcome and cope with their discomfort and disgust by escalating their violence. Contrary to the idea that perpetrator disgust is a potential moral guide that could disrupt mass atrocity, perpetrator disgust may indirectly facilitate and even increase the violence against victims.
- 1082: In none of the cases I have studied – ranging from the Holocaust and the Vietnam War to Rwanda and the break-up of the former Yugoslavia – did perpetrator disgust lead to pro-social action. This does suggest that the oft-repeated claim that perpetrator disgust represents a potentially pro-social force is largely unfounded. If perpetrator disgust impedes mass atrocity, it does not appear to be for moral reasons; the soldiers may feel momentarily overwhelmed by their disgust, they may feel unable to proceed, but they typically and quickly learn to overcome their discomfort in order to become brutal, routinized killers.
- 1085: The phenomenon we have witnessed in Germany was nothing less than [an] outbreak of epidemic insanity. [...] No one knew what was happening to him, least of all of the Germans, who allowed themselves to be driven to the slaughterhouse by their leading psychopaths like hypnotized sheep.

1088: Depression, despair, and boredom in the large sense of ennui share then a common ground with disgust, especially selfdisgust or self-loathing.

1091: Melancholic persons experience a perverse satisfaction when the universe obliges their disposition by showing all existence to be as infected as they believe it to be. For them, existence itself is contaminating.

1092: Nothing escapes disgust with life, for when appearances suggest there is no cause for despair the melancholic disposition has the talent to expose the pleasant and desirable as a set-up or a shame.

1097: Indeed, it is becoming ever more obvious that it is not famine, not earthquakes, not microbes, not cancer but man himself who is man's greatest danger to man, for the simple reason that there is no adequate protection against psychic epidemics, which are infinitely more devastating than the worst of natural catastrophes.

1102: The gigantic catastrophes that threaten us today are not elemental happenings of a physical or biological order, but psychic events. To a quite terrifying degree we are hreatened by wars and revolutions which are nothing other than psychic epidemics. At any moment several millions of human beings may be smitten with a new madness, and then we shall have another world war or devastating revolution. Instead of being at the mercy of wild beasts, earthquakes, landslides, and inundations, modern man is battered by the elemental forces of his own psyche. This is the World Power that vastly exceeds all other powers on earth. The Age of Enlightenment, which stripped nature and human institutions of gods, overlooked the God of Terror who dwells in the human soul. If anywhere, fear of God is justified in face of the overwhelming supremacy of the psychic.

1105: It is never the Material, but only the Moral, that unites men.

1107: The answer to the problem of humanity is the integrity of the individual. That's the answer.

1108: To the constantly reiterated question »What can I do?» I know no other answer except »Become what you have always been,» namely, the wholeness which we have lost in the midst of our civilized, conscious existence, a wholeness which we always were without knowing it. [...] each of us remember his own soul and his own wholeness, because this is the answer the West should give to the danger of mass-mindedness.