

Making the pandemic normal: How 'endemic' became a euphemism

Normalizando la pandemia: cómo 'endémico' se convirtió en un eufemismo

BRIGITTE NERLICH

University of Nottingham (Reino Unido)

Recibido: 16.08.2022

Aceptado: 14.10.2022

ABSTRACT

In 2019 a novel coronavirus, SARS-CoV-2, spread around the world and a global pandemic was declared early in 2020. Currently, the pandemic has still not been brought under control. Over time, many new words have seeped into ordinary language and old words have changed their meanings. In this article, I trace the semantic development of the word 'endemic' which spread from science discourse into political discourse and then into public discourse and became a euphemism. People are told that they should now 'live with' the pandemic, a pandemic that is no longer dangerous, because it has turned endemic. This euphemistic use of 'endemic' has serious consequences for pandemic management and disease control, not only in countries like the UK, where the word has, indeed, become 'endemic', but around the world, as the word has the social function of concealing the circulation of the virus and normalising the spread of infection, even death.

KEYWORDS

COVID, CORONAVIRUS, DISEASE MANAGEMENT, ENDEMIC, EUPHEMISM, PANDEMIC.

RESUMEN

En 2019, un nuevo coronavirus, SARS-CoV-2, se extendió por todo el mundo y se declaró una pandemia mundial a principios de 2020. Actualmente, la pandemia aún no se ha controlado. Con el tiempo, muchas palabras nuevas se han filtrado en el lenguaje común y las palabras antiguas han cambiado de significado. En este artículo, sigo el desarrollo semántico de la palabra 'endémica' que se extendió

del discurso científico al discurso político y luego al discurso público y se convirtió en un eufemismo. A la gente se le dice que ahora debe ‘vivir con’ la pandemia, una pandemia que ya no es peligrosa, porque se ha vuelto endémica. Este uso eufemístico de ‘endémico’ tiene graves consecuencias para el manejo de la pandemia y el control de enfermedades, no solo en países como el Reino Unido, donde la palabra se ha vuelto ‘endémica’, sino en todo el mundo, ya que la palabra tiene la función social de ocultar la circulación del virus y normalizar la propagación de la infección, incluso la muerte.

PALABRAS CLAVE

COVID, CORONAVIRUS, MANEJO DE ENFERMEDADES, ENDÉMICO, EUFEMISMO, PANDEMIA.

I. INTRODUCTION

AT THE BEGINNING OF 2022 a new word began to spread in public pandemic discourse: ‘endemic’. It became a buzzword, especially in the United Kingdom and the United States. It also became a kernel for the formation of new meanings and social representations of the Covid-19 pandemic caused by the coronavirus SARS-CoV-2 and its variants, which has been spreading around the globe since the end of 2019. The word ‘endemic’ migrated from scientific discourse into political discourse, where it was mainly used to argue that the pandemic was largely over and people had to learn ‘to live with the virus’ (see Nerlich and Jaspal, under review). In the process, the word became a (dangerous) euphemism.

Pedro Chamizo Dominguez once wrote that a euphemism can

“only function as a euphemism if its interpretation remains ambiguous, that is, when the hearer can understand the utterance both in a literal and in a euphemistic way” (Chamizo Dominguez, 2005: 9; quoting Allan & Burrige, 1991: 11).

This is important in the context of exploring the uses of the word ‘endemic’ during the pandemic, as some people used the word in relatively neutral scientific way to talk about the dangers of endemic diseases, while others used the word ‘endemic’ to make people think that it was time to return to normal life and to learn to ‘live with the (endemic) virus’.

Chamizo Dominguez also pointed out that a euphemism

“fulfils several, relevant social functions [...]. Their main function consists in concealing or disguising an unpleasant object or the unpleasant effects of that object”.

This might then lead to the object, in our case an outbreak of a pandemic disease, being seen as more acceptable and normal.

Well-known examples of euphemisms are 'passed away' instead of 'died', 'collateral damage' instead of 'accidental deaths', 'on the streets' instead of 'homeless', and so on. 'Collateral damage', for example, is

"a euphemism designed to dehumanise non-combatants killed or injured during combat, used to reduce the perceived culpability of military leadership in failing to prevent non-combatant casualties" (Sutcliffe, 2022).

The phrase normalises what should not be normalised. This aspect of euphemisms is important to observe in the context of studying the word 'endemic' during a pandemic, as there is a danger of normalising something too early in the process of pandemic disease management.

In this short essay I want to look at some public reactions to government talk about endemicity at the beginning of 2022.

II. RATIONALE AND APPROACH

My curiosity about the word 'endemic' was aroused when I listened to some pronouncement by the UK government at the beginning of the year 2022 that the coronavirus was now endemic in our country and we could therefore all relax, learn to 'live with the virus' and get on with our normal lives. This contrasted with a tweet by William (Bill) Hanage (Hanage, 2022a), an epidemiologist, sent on 4 January:

"For some reason there seems to be a lot of talk about endemicity again. For the avoidance of doubt, omicron is not endemic right now in much the same way that the moon is not a hamster".

To which another epidemiological expert, Aris Katzourakis replied: "But hear me out. If we stop counting hamsters and moons, and agree they are both just seasonal endemic nouns; see?" (Katzourakis, 2022) – referring to the fact that no longer testing and counting Covid cases and declaring the pandemic 'endemic' was not a good disease management strategy.

For this short essay, I went through the responses to Hanage's hamster/moon tweet and looked more closely at what words and concepts people associated with 'endemic'. Hanage's tweet was retweeted 1,733 times, there were 108 quote tweets and 9,752 likes. As for comments or responses,

there is no number available, but my estimate is that there were about 200, some of which focused on playing with the ‘moon is not a hamster’ saying, rather than commenting on endemicity as such.

Alongside these responses, I also looked at a cluster of tweets that appeared around the same time in my Twitter timeline, that is, in early January 2022, at the height of a campaign by the government to make living with Covid acceptable. I did not carry out a systematic twitter analysis for this essay and want to stress that my analysis can only provide a very time-limited impressionistic glimpse at an ongoing, rather niche and mostly expert debate.

Before I begin my examination of the tweets and responses, it might be useful to provide an official definition of the word ‘endemic’.

III. ‘ENDEMIC’: WHAT DOES IT MEAN?

The *Oxford English Dictionary* defines the word ‘endemic’ as

“Constantly or regularly found among a (specified) people, or in a (specified) country... Of diseases: Habitually prevalent in a certain country, and due to permanent local causes” (OED, online).

Medical dictionaries have similar definitions, such as

“Endemic: A characteristic of a particular population, environment, or region. Examples of endemic diseases include chicken pox that occurs at a predictable rate among young school children in the United States and malaria in some areas of Africa” (Rx List, 2021).

As one article, trying to explain the word to patients, highlighted:

“An epidemic is often localized to a region, but the number of those infected in that region is significantly higher than normal. For example, when Covid-19 was limited to Wuhan, China, it was an epidemic. The geographical spread around the world turned it into a pandemic. Endemics, on the other hand, are a constant presence in a specific location. Malaria is endemic to parts of Africa. Ice is endemic to Antarctica” (Intermountain Healthcare, 2020).

And, just now an illness endemic to some African countries, namely monkeypox, has turned into a global outbreak and people are worried that if not dealt with urgently it may become endemic in countries where it was never endemic before. So, although endemic has no intrinsically negative

connotations, in the context of disease management, an endemic disease or a disease becoming endemic is generally not seen as a good thing.

There seems to be a general consensus emerging amongst scientists that Covid-19 might eventually become endemic in some parts of the world where nations have not managed to suppress it, but that we are not quite there yet (Phillips, 2021). Some see reaching an endemic state as desirable, even a “cause for celebration” (Pearl, 2021) and they see the Omicron variant of the virus as a promising stepping stone towards reaching that destination; others see Omicron as an obstacle that has to be overcome before reaching it (see Charumilind et al., 2022).

But what happens when we reach that, metaphorical, end-point, that is to say, the state of Covid-19 being endemic? Malaria is endemic in Africa, but ‘living with it’ is still very dangerous, and this despite employing many public health measures (which have never been abandoned once malaria became ‘endemic’). Millions of people still die of endemic malaria.

IV. DEBATING ENDEMIC DISEASE

At the beginning of the pandemic, when the new coronavirus was an as yet unknown entity, there were speculations as to whether this virus would be similar to other endemic viruses which cause the common cold or the flu, for example. People saw such a new, potentially endemic, virus as something dangerous and to be avoided. But then Covid-19 caused by the coronavirus SARS-CoV-2 was declared a pandemic and it became clear that this was a virus that was dangerous in a different way. Now discussions turned towards asking whether this pandemic virus would, over time, become endemic. This time, endemicity was not seen as something to be avoided but as something to be aspired to. As suppressing the virus was largely failing, politicians began to talk about people ‘learning to live with the virus’, a virus that was framed as quite harmless and, indeed, ‘endemic’. The apparent goal of pandemic management was “to live with the virus - not fight it” (Triggle, 2021). This change in perspective around endemic disease provoked some debate amongst experts and members of the public. I shall here provide a quick glance at some of that debate as it happened on Twitter at the time.

I started my exploration after seeing this tweet by Bill Hanage:

“For some reason there seems to be a lot of talk about endemicity again. For the avoidance of doubt, omicron is not endemic right now in much the same way that the moon is not a hamster”.

This tweet was quoted in an article in the *Financial Times* with the comment: “The relatively stable presence of an endemic disease is a world away from the unpredictable spikes and surges of the current pandemic” (Ahuja, 2022). Hanage’s tweet sparked a short debate on endemic Covid which included a debate about what it means for a disease to be ‘endemic’.

BEING ACCEPTABLE

Looking at the responses to the Hanage tweet, I found that experts like the epidemiologist Aris Katzourakis were very critical of the emerging discourse that “covid will just become endemic” (Katzourakis, 2022) and, by implication, an acceptable part of everyday life.

Making the virus ‘acceptable’ by calling it ‘endemic’ contrasts sharply with some definitions of ‘endemic’ by scientists who say that endemicity is reached when we get to “some sort of acceptable state” (Wermus, 2022) or reach a consensus on what an acceptable number of deaths is. But as the epidemiologist Ellie Murray said in a Twitter thread on endemicity that a responder retweeted underneath Hanage’s tweet:

“What level is ‘acceptable’ differs from place to place, over time & between diseases, and it may not always be explicit, but when a disease is endemic, there is a threshold!” (Murray, 2021).

How many deaths are acceptable to a society needs societal discussion, something that is side-stepped when we ‘just’ accept Covid as ‘endemic’. The word ‘acceptable’ had become ambiguous in the context of the endemicity discussion.

BEING INEVITABLE

One responder to Hanage’s tweet pointed to some people thinking that reaching endemicity was ‘inevitable’ (O’Connor, 2022) and that people should just ‘get on with it’ – similar to accepting it as part of everyday life. Others in the media equated endemic with ‘inescapable’ and a ‘regular part of life’ (Tayag, 2021). They argued that it is part of a new type of life we have to learn to ‘endure’.... - a new normal (Charumilind, et al., 2021 for

a critical analysis). In this discourse, endemicity is used euphemistically to frame the pandemic as our inevitable fate; again, something to accept, rather than something to try to avoid. This then means that politicians do not need to engage in thinking about public health measures.

Part of this framing of the pandemic as endemic fate was saying it was 'just like' the flu or a cold.

BEING HARMLESS OR BENIGN

As one respondent to Hanage's tweet said:

"People hear endemic and think of something benign like a cold. But long term endemic diseases often get that way via natural selection of the host. Depending on the selective pressure that can take thousands of years. Smallpox was endemic for millennia and never became 'benign'" (felinecannonball, 2022).

In contrast, politicians at the time tried to equate Covid with (endemic) flu or having a cold. Here 'endemic' becomes virtually synonymous with 'harmless'. This rosy view of Covid was supported by some experts who said that the new variant Omicron was 'mild' (Farge and Roy, 2022). But, as we have seen, 'endemic' does not necessarily mean mild. It means that a disease is prevalent in a region. As another contributor to the Hanage discussion said: "Life-threatening illnesses can be endemic. That's not a good thing" (Incognito Writer, 2022). Bubonic plague is endemic in rodents in the United States, for example.

The current evidence suggests that Covid is indeed not like the flu or like a cold. The illnesses are similar insofar as they affect the respiratory system, but, in addition, Covid can also impair the brain, the heart, the kidneys and other organs, and have long-lasting effects (see Puelles et al., 2020).

BEING NORMAL

There is, however, a yearning, as one Tweeter said "to declare the pandemic over and say 'Covid is endemic'" (Surowiecki, 2022). Once the pandemic has become 'euphemised' into an endemic, the pandemic is 'over' and people can return to normal and lead normal lives. Declaring the end of the pandemic heralded a new normal. There was some resistance though to this framing and to this use of the term 'endemic'.

One commentator responded to Hanage's tweet by saying that 'endemic' was being redefined and now meant "Politicians wishing infection away,

while actively encouraging spread, by the use of awful policies” (Donal, 2022). Another tweeter warned: “The real danger of this line of thinking is that people think redefining it as ‘endemic’ will somehow change its transmission and burden” (TheDandyGent, 2022). That is to say, these citizens noticed and criticised that ‘endemic’ was used euphemistically in order to, as Chamizo Domiguez had said, conceal or disguise an unpleasant object or the unpleasant effects of that object – in our case the pandemic, the virus, Covid and its effects on individuals and society. That was quite dangerous.

V. THE DANGERS OF EUPHEMISING ‘ENDEMIC’

The meaning of ‘endemic’ seems to be, for some, that the spread and impacts of Covid as they currently exist are the best we can hope for, as we cannot suppress or eradicate the virus (that, in its current form, Covid is acceptable, inescapable, mildly annoying, benign or harmless and a new kind of normal). The word is used in a context where politicians urge citizens to ‘live with the virus’, a narrative that “individualises the social and health burdens of post pandemic life” (Davis, 2022) and shifts responsibility away from the government and coordinated pandemic disease management towards individual citizens who may be ill-equipped to manage the risks and the disease themselves. The problem with this framing is that we may not even try to suppress the virus anymore, at least here in the UK.

The other danger is that the discourse around ‘endemicity’ might be dragged into the discourse around ‘freedom’ (Bhattacharya, 2022), just like the mask and vaccination discourses, with ‘supporters’ of endemicity claiming it will free us from what they may see as state bioterrorism or something similar, while others might reflect on the cost that some in society, for example the immunosuppressed, would have to pay to get to that new state of freedom. This might entrench polarisations and inequalities in society which the pandemic has highlighted. But there are more direct problems with framing, or, as one might say, ‘euphemising’, disease endemicity as relatively harmless...

As Jeremy Farrar, Director of the Wellcome Trust (a charitable foundation focused on health research) said:

“Endemicity doesn’t mean that there will be no more infections, let alone illnesses and deaths. It also doesn’t mean that future infections will cause milder illness

than they do now. Simply put, it indicates that immunity and infections will have reached a steady state. Not enough people will be immune to deny the virus a host. Not enough people will be vulnerable to spark widespread outbreaks” (Farrar, 2021).

So we have to be careful about what we wish for.

And what about this endemicity? Is that ‘steady state’ anywhere in sight? Perhaps not. As Sarah Zhang, a renowned science writer, pointed out in *The Atlantic* just at the start of Omicron:

“No one knows exactly what endemic COVID will look like, but whatever it looks like, this—gestures at the current situation—ain’t it. COVID is not yet endemic. There is little doubt that the coronavirus will get there eventually, when almost everyone has been vaccinated or infected or both, but right now we are still living through a messy and potentially volatile transition period. [...] The challenge ahead is figuring out how to manage the transition to endemicity, however long it takes.”

Euphemising endemicity might not be the best way forward in this context.

VI. CONCLUSION

Managing the transition from ‘pandemic’ to ‘endemic’ means taking care of people; protecting people – and how much protection they need and how much protection governments can provide depends on the level of endemicity that they have to deal with or allow to happen, and this, in turn, depends on how many deaths are seen as acceptable. But managing the transition also means managing information better at a time when dis/misinformation is ‘endemic’. As Hanage said in another tweet: “In any case the term endemism needs to be carefully deployed” (Hanage, 2022b). This also means becoming aware of its euphemistic use and the ensuing ambiguity of the term. It can be used as a neutral scientific jargon term, but also as a political tool. The findings of my limited analysis of the public debate around these usages points to the struggle that people have with the use and possible misuse of the term.

We need science and pandemic communicators to keep an eye on what things people do with the word ‘endemic’, especially how it is used euphemistically in order to normalise what should perhaps not be normal. Some politicians and publics no longer see endemicity as a danger to be

avoided but a destination to be reached, as the infectious disease expert Adam Kucharski tweeted: “as if it’s some inevitable low baseline infection level to be eventually reached” (Kucharski, 2021). We do not seem to have reached that state yet. Euphemising the word endemic does not help to reach that state; it just bamboozles people. There are euphemisms ‘we live by’ (see Chamizo Dominguez, 2005: 9), but there are also euphemisms we may ‘die by’. Euphemisms that disguise something as normal, something that should not (yet) be normalised, are dangerous.

BIBLIOGRAPHIC REFERENCES

Ahuja, A. (2022): “Living with endemic Covid will not be painless.” *Financial Times*, 18 January. <https://www.ft.com/content/90c0d2e5-063e-44d1-9acf-d603aeafd41d>

Allan, K. and Burrige, K. (1991): *Euphemism & dysphemism: Language used as shield and weapon*. USA: Oxford University Press.

Chamizo Domínguez, P. J. (2005): “Some theses on euphemisms and dysphemisms”. *Studia Anglica Resoviensia* 3, pp. 9-15: https://www.researchgate.net/publication/292759527_Some_theses_on_euphemisms_and_dysphemisms

Charumilind, S., Craven, M., Lamb, J., Sabow, A., Shubham, S., and Wilson, M. (2022): “When will the Covid-19 pandemic end?” *McKinsey & Company*, 26 July. <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/when-will-the-covid-19-pandemic-end>

Davis, M. D. M. (2022): “‘Live with the Virus’: Narrative and pandemic amnesia in the governance of COVID-19”. *Social Sciences*, 11(8), p. 340.

Farge, E. and Roy, M. (2022): “WHO sees more evidence that Omicron causes milder symptoms”. *Reuters*, 4 January. <https://www.reuters.com/business/healthcare-pharmaceuticals/who-sees-more-evidence-that-omicron-affects-upper-respiratory-tract-2022-01-04/>

Farrar, J. (2021): “Covid will become endemic: The world must decide what that means”. *Wired*, 21 December. <https://www.wired.com/story/covid-will-become-endemic-the-world-must-decide-what-that-means/>

Intermountain Healthcare (2020): “What’s the difference between a pandemic, an epidemic, endemic, and an outbreak?” Blog post. *Intermountainhealthcare*, 2 April. <https://intermountainhealthcare>.

org/blogs/topics/live-well/2020/04/whats-the-difference-between-a-pandemic-an-epidemic-endemic-and-an-outbreak/

Nerlich, B. and Jaspal, R. (under review): "From danger to destination: Social representations of 'endemic' disease in relation to COVID-19." *Medical Humanities*.

OED (online): *Oxford English Dictionary*: <https://www.oed.com/>

Pearl, R. (2021): Opinion: "Endemic COVID-19 should be cause for celebration, not consternation". *The Mercury News*, 26 December: <https://www.mercurynews.com/2021/12/26/opinion-endemic-covid-19-should-be-cause-for-celebration-not-consternation/>

Phillips, N. (2021). News feature: "The coronavirus is here to stay — here's what that means". *Nature*, 16 February: <https://www.nature.com/articles/d41586-021-00396-2>

Puelles, V. G., Lütgehetmann, M., Lindenmeyer, M. T., Sperhake, J. P., Wong, M. N., Allweiss, L., ... & Huber, T. B. (2020): Multiorgan and renal tropism of SARS-CoV-2. *I*, 383(6), 590-592.

Rx List (2021): Definition of 'endemic', Blog post. *Rxlist*, 29 March: <https://www.rxlist.com/endemic/definition.htm>

Sutcliffe, H. (2022): "Some Buzzwords are not irritating, they are tiny works of genius — my top 5 best and worst!" Blog post. *Medium*, 1 August. <https://hilarity-4230.medium.com/some-buzzwords-are-not-irritating-they-are-tiny-works-of-genius-my-top-5-best-and-worst-e54fddd96944>

Tayag, Y. (2021): "From pandemic to endemic: this is how we might get back to normal." *The Guardian*, 4 December. <https://www.theguardian.com/us-news/2021/dec/05/covid-19-from-pandemic-to-endemic-this-is-how-we-might-get-back-to-normal>

Triggle, N. (2021): "Covid: Why goal is to live with the virus - not fight it." *BBC News*, 16 February. <https://www.bbc.co.uk/news/health-55985916>

Wermus, K. (2022): "Some Infectious Disease Specialists See COVID Approaching 'Endemic' Stage After Omicron." *Newsweek*, 1 March. <https://twitter.com/Newsweek/status/1478047303500013572?s=20&t=koFeQccitwPIxVzj0FrNKg>

Zhang, S. (2022): "Covid is not endemic yet and may not be for a long time." *The Atlantic*, 6 December: <https://www.theatlantic.com/health/>

archive/2021/12/covid-is-not-endemic-yet-and-may-not-be-for-a-long-time/620914/

TWEETS USED FOR ANALYSIS

Bhattacharaya, J. (2021). Tweet. *Twitter*, 13 September: https://twitter.com/DrJBhattacharya/status/1437221238821343233?s=20&t=_NoRtsctGMYakkUZ1HUG_g\

Donal (2022). Tweet. *Twitter*, 10 January: <https://twitter.com/GrumpyOldDoc/status/1480654760101486600?s=20&t=Du7QOoKXC16giyw9BndBLA>

Felinecannonball (2022). Tweet. *Twitter*, 4 January: https://twitter.com/feline_cannon/status/1478209349491179520?s=20&t=iz0BPW9K0XceL6OwxHGrlg

Hanage, B. (2022a). Tweet. *Twitter*, 4 January: <https://twitter.com/BillHanage/status/1478192648418639874?s=20>

Hanage, B. (2022b). Tweet. *Twitter*, 2 October: <https://twitter.com/BillHanage/status/1444122120770949123?s=20>

Harris, J. (2022): Tweet. *Twitter*, 30 July: <https://twitter.com/JoeHarrisGhost/status/1553392251644026881?s=20&t=esk-gDKj1lvEEdm8apAQ2Q>

Incognito Writer (2002). Tweet. *Twitter*, 4 January: <https://twitter.com/factsarefact12/status/1478224173365354501?s=20&t=WEm98hQGOYLDiCCa3Lg>

Katzourakis, A. (2021). Tweet. *Twitter*, 11 February: <https://twitter.com/ArisKatzourakis/status/1359863862854615043?s=20>

Katzourakis, A. (2022). Tweet. *Twitter*, 4 January: <https://twitter.com/ArisKatzourakis/status/1478196409153241089?s=20&t=z2dr8IBllL-hh3mtll1dsg>

Kucharski, A. (2021). Tweet. *Twitter*, 23 July: <https://twitter.com/adamjkucharski/status/1444088862809153539?s=20&t=17HVUKOgqeJzivi8BCA8Gw>

Kucharski, A. (2021). Tweet. *Twitter*, 2 October: <https://twitter.com/adamjkucharski/status/1550775873871265795?s=&t=RNXJrYZvylZywWEP1wC2g>

Murray, E. (2021). Twitter thread. *Twitter*, 2 October: <https://twitter.com/EpiEllie/status/1444088862809153539?s=20&t=17HVUKOgqeJzivi8BCA8Gw>

O'Connor, B. (2022). Tweet. *Twitter*, 4 January: <https://twitter.com/BelindaJConnor/status/1478229386801213441?s=20&t=pilg3xCNnR6aJk3svI75pg>

Surowiecki, J. (2022). Tweet. *Twitter*, 3 January: <https://twitter.com/JamesSurowiecki/status/1478131390021570564?s=20&t=UUjZ95VEsKfgpi39A-vz4A>

TheDandyGent (2022). Tweet. Twitter, 4 January: https://twitter.com/DandyGent/status/1478205686479605762?s=20&t=N7MrPISJDDRDHwU1C6Ks_g

BRIGITTE NERLICH is Emeritus Professor of Science, Language and Society at the School of Sociology and Social Policy at the University of Nottingham. She explores the cultural and political contexts in which metaphors and other rhetorical devices are used in scientific, media and policy debates about emerging technologies, emerging diseases, and climate change.

Research lines:

- Cognitive linguistics
- Applied metaphor analysis
- History of linguistics
- Philosophy of science

Recent publications:

- Nerlich, B., & Jaspal, R. (2021). "Social representations of 'social distancing' in response to COVID-19 in the UK media." *Current Sociology*, 69 (4), 566-583.
- Nerlich, B. (2022). "Metaphors in times of a global pandemic." In Wuppuluri, S., & Grayling, A. C. (eds), *Metaphors and Analogies in Sciences and Humanities*. Synthese Library, vol. 453 (pp. 421-446). New York: Springer.
- Nerlich, B., & Stelmach, A. (2022). "Gene drive communication: Exploring experts' lived experience of metaphor use." *New Genetics and Society*, 1-20.
- Nerlich, B. (2022). "The coronavirus and Covid-19: Verbal and visual metaphors." In Gephart, W., & Leko, J. (eds.), *In the Realm of Corona Normativities II* (pp. 303-318). Frankfurt a. M.: Klostermann.

Electronic address: Brigitte.Nerlich@nottingham.ac.uk

