

Political and economic instrumentalisation of science: Towards an extended concept of corruption

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Abstract

Popular perception holds that science has been distorted by the pressure of expectations of economic utility or political desirability. Grounded in Niklas Luhmann's system theory, this paper examines the interplay of the political, economic and scientific subsystem of society to scrutinise the idea that science has been corrupted by economy and politics. To this end, we extend the notion of corruption beyond the common, predominantly legal meaning. As a result, we identify organisations as loci of corruptions that can occur at the interfaces of economy, politics and law as much as at the interfaces of science, education and economy or science, politics and health. We conclude that further conceptual and empirical research on these and similar cases of corruption is a worthy scientific goal.

KEYWORDS

corruption, freedom of research, functional differentiation, inter-systemic irritation, management of scientific organisations, social systems theory

‘Just over half (52%) of respondents agree that we have no option but to trust those governing science and technology ... Most respondents (50%) agree that we can no longer trust scientists to tell the truth about controversial scientific and technological issues because they depend more and more on money from industry ...’

(European Union, 2021, p. 9)

1 | INTRODUCTION

Science has been the target of fundamental criticism for much the second half of the 20th century (Kuhn, 1996; Lyotard, 1984, and many others), albeit or precisely because recent lines of research suggest that science has been one of the most important subsystems in several language areas in the same period, second only to politics (Roth, 2021a, 2021b; Roth et al., 2017). Undoubtedly,

science has left a strong mark on modern education, academic medicine or innovation economies. Contrary to promise of Enlightenment, and time-honoured Comteian expectations that the scientific revolution will suppress irrational thoughts, however, our age is certainly not a purely scientific one. Not least during the COVID-19 crisis, there has been much debate about a resurgence of pseudo-scientific, esoteric or conspiracy-theoretical worldviews on the one hand and forms of political or economic instrumentalisation of science on the other.

In the present paper, we draw on Niklas Luhmann's concept of functional differentiation to theoretically frame this double challenge to science. In so doing, we distinguish two types of developments. First, changes pertaining to the internal organisation of science; second, changes of the external relationships that science maintains with politics, economy and other function systems of modern society. We then proceed to show that, in cases of particularly intensive relationships between these function systems, the resulting mutual irritation

may take dysfunctional forms that may be referred to as corruption. In thus extending the original definition of the concept, organisations are identified as locus of these corruptions that may be observed to occur at the interfaces of economy, politics and law as much as at the interfaces of science, education and economy or science, politics and health. We conclude that further conceptual and empirical research on such a comprehensive concept of corruption is a worthy scientific goal.

2 | AUTONOMY VERSUS POLITICAL CONTROL OF SCIENCE

During the COVID-19 crisis, we have witnessed the proliferation of a most diverse set of interpretative frameworks concerning the origins and the management of the COVID-19 pandemic in the public media space (Žažar, 2022): COVID-19 was discussed as ‘God’s punishment’, nature’s revenge or biological weapon spread by secret services or via 5G networks. For others, COVID-19 has just been the pretext for mass vaccinations with experimental biogenetics, the undermining of constitutional rights, or the implementation of a new world order. Many of these interpretations of the COVID-19 crisis have early been and are still being labelled as ‘conspiracy theories’. Whereas some of these views lack any scientific basis, it might be wise to recall that more than one ‘conspiracy theory’ in history has ultimately turned out to be true, as is the case with the ‘Watergate scandal’ (Uscinski, 2018, p. 6; Douglas et al., 2019). During the COVID-19 crisis, those who have heralded in 2020 the roll-out of vaccine passports or mandatory vaccination regimes have been dismissed as ‘conspiracy theorists’, too. One year later, these same people have been called ‘conspiracy theorists’ again because they opposed the actual use of vaccine passports and the coerced participation in mass vaccination schemes.

In 2023, there is still no consensus concerning the commensurability of nonpharmaceutical interventions such assembly bans and stay-at-home mandates, the effectiveness and safety of vaccines or the legality of the exclusion of people without vaccine passports from many spheres of social life. However, this plurality of theories, assessments and conclusions has been in sharp contrast with an omnipresent ‘Follow the science’ imperative propagated by policy makers worldwide. This imperative not only appeared to suggest the existence of a monolithic body of scientific knowledge on the issues at hand but also conflated scientific knowledge with natural scientific knowledge, disregarding and omitting social scientific knowledge (Lohse & Canali, 2021). It seems as though the ‘epistemic

anarchy’ appeared to many an observer as ‘epistemic cacophony’, and thus to many a political decision-maker as an opportunity or necessity to make political choices as to what ‘the science’ was. In any case, the situation resulted in an over-identification of science with one of its branches and with a cherry-picked fraction of voices therein.

In looking at this situation through the lens of social systems theory in the tradition of Niklas Luhmann (1995, 2012), modern society appears polycentric; that is, it does not have one centre, top-level domain or primordial function system (such as religion is said to have been in mediaeval times). Each of the key function system (politics, economy, science, art, religion, law, health, sport, education and mass media; see Roth & Schütz, 2015) is, by default, of equal value to society as a whole. In fact, the circumstance that the relative value of these systems is not predefined is the core prerequisite for the possibility that individual subsystem of society can place different value on each of these function systems (see Roth et al., 2017; Roth et al., 2019). Moreover, these systems are not only incommensurable in the above sense but also operationally autonomous in that each function system performs a unique function that cannot be carried out by any other system. Thus, politics cannot do science, religion cannot do art and economy cannot do health, and there is hence no direct intervention of one system into another either.

Obviously, observable inter-system relationships, for example, the fact that the economic situation of a person can have an impact on health outcomes, are then a matter of what Luhmann refers to as ‘structural coupling’ (see, e.g., Knudsen, 2007; Sakai, 2023). Apparently, in our example, the relationship between economy and health is neither causal nor chaotic but contingent. Money cannot buy health, yet still it may be helpful to have some money and invest it in certain health outcomes. Conversely, health may also be observed as a pre- or context for money-making. The relationship of economy and health is therefore contingent, and actually doubly contingent, on how the respective systems perform their operations and make sense of the performance of the other system. Specific forms of coordination between two or more systems, structural couplings, therefore, remain conceivable, yet the boundary of economy and health remains intact as in Luhmannian social systems theory, there is no blurring, mixing or overlapping of or between different systems. A system is and always remains the boundary of this system and its environment.

Still, Luhmann allows for the idea of interpenetration, though not in a Parsonian sense of one system

intervening into the other or an import–export of elements from one system into another. Rather, interpenetration in a Luhmannian context refers to a situation where systems are coupled or tied particularly strongly to one another. Whereas such strong ties between systems, including function systems, are a common feature in modern society, there seems to be a degree where such ties may appear as being too strong in the eye of this or that beholder. One obvious example is the relationship between the individual economic situation and the individual political outcomes for participants in a democratic election. If this relationship is perceived to be too strong, then our verdict would most probably be corruption.

Our above elaborations, however, suggest that such assessments of excessively strong ties are not limited to economy–politics relationships but rather extend to all cases where inter-system relationships approximate perceived causality. In this sense, too, reservations towards causal links between or interventions into systems are constitutive of modern society (Clark, 2021; Ward, 2017).

The mutual fascination of politics and science might lead into situations where the ties between the two systems appear to be too strong or asymmetrical for one or the other. In such cases, one might observe invasive manner as an *expansion* of one system at the expense of another and thus inter-systemic corruption, devaluation, displacement, *dedifferentiation* (Statunato, 2022) or demodernisation.

In the following sections, we shall discuss the appropriateness of observations of such problematic relationships between science, politics and economy. Are we confronted here with standard cases of structural coupling or particularly strong and repeated observations of inter-systemic corruption that point at observational shifts from functional differentiation to the primacy an earlier form of social differentiation and thus at demodernisation?

3 | THE PERCEIVED EROSION OF THE RELEVANCE OF SCIENCE

The above lack of consensus among scientists regarding the efficacy and commensurability of the COVID-19 pandemic mitigation measures and other aspects of the COVID-19 crisis may be perceived and has often been perceived as a serious token of the dysfunctionality of science. This negative verdict is particularly likely if the function of science is confused with its utility or, in Luhmannian terms, ‘performance’ for other function systems.

3.1 | Intra-scientific factors

From a functional perspective, science may quite accurately be defined as ‘organised scepticism’ (May, 2011; Merton, 1973; Roth et al., 2023). From this perspective, it is highly debatable whether consensus can even be a goal of scientific endeavours, as research is a constantly ongoing process that involves permanent (re)considerations of its own limits and conclusions. In such context, lack of consensus is the rule rather than the exception and particularly so under perceived conditions of ‘post-normal’ science (Funtowicz & Ravetz, 1993) where society is faced with novel, unknown, urgent phenomena and challenges presumably calling for immediate response.

The COVID-19 crisis thus seems to represent precisely once such context where there is no ‘normal science’ (Kuhn, 1996). In this sense, the lack of normality appears to be the ‘new normal’ in post-normal conditions. Expectations of ‘monolithic’ and ‘univocal’ scientific judgements on how to (not to) make sense of and management this crisis, therefore, constitutes a severe misrecognition of the basic function and functioning of science. Still, this misrecognition has been particularly widespread during the crisis as (self-styled) experts and political decision-makers alike regularly presented selected scientific findings, models or interpretations as unanimous and incontestable. Even many individual and organisational representatives of science have joined in the ‘Follow the science’ political imperative even though this imperative is obviously not in line with the inherently anti-dogmatic character of science. The fact that even many ‘scientists’ supported the myth of monolithic science and the silencing of ‘dissenting voices’ during the COVID-19 crisis might, therefore, result in the perception of a substantial tension between the function of science and the role played by many ‘scientists’.

There is hence a dual challenge of science that relates or is (mis-) attributed to the way how science works:

First, though a function of its function, the lack of a single, unified voice in science may be perceived as a dysfunction by those observers who expect unambiguous ‘scientific’ advice on managing crises. In the absence of this unambiguous expert advice, these observers may experience a form of ‘epistemic disappointment’.

Second, the fact that many scientists actually have assumed the role of representatives of an unambiguous truth and monolithic science that one has to follow blindly may have disappointed both particularly the most devoted scientists and lay audiences who are more familiar with science’s actual mode of operation.

Either development might lead towards the diminishment of science’s public reputation. This becomes even clearer if we shift the focus on science to a focus on

science's relationships with other function systems, that is, in our case, economy and politics.¹

3.2 | Extra-scientific factors

3.2.1 | Economic instrumentalisation of science

The current state of affairs regarding the relations between science, politics and economy has been substantially shaped and reflected by claims and analyses pertaining to the so-called *Mode 2* of science (Gibbons et al., 1994), the *Triple helix model* (Etzkowitz, 2002, 2003, 2004; Etzkowitz & Leydesdorff, 2000) or *Third generation universities* (Wissema, 2009). The common feature of all these elaborations is the advocacy for or at least implication of the idea that extra-scientific expectations must be imposed on and met by science. The focus here, however, has slightly shifted insofar as science is confused or at least over-identified with the organisations commonly associated with it. Thus, the above models suggest or imply that universities be not only oriented towards their traditional core functions of *teaching* and *research*, and thus the function systems education and science, receptively, but rather should pursue additional third missions such as *political* activism or active contributions to *economic* growth. Consequently, the main challenge is to devise and implement instrumental relationships between universities, businesses and (non-) governmental organisations, in the context of which where the transfer of knowledge and innovation is expected to foster politically endorsed forms of economic growth. Within this scheme of knowledge production, the value of scientific knowledge is hence determined by its economic instrumentality and political desirability. Whereas anticipated and realised developments along these lines do by no means imply that non-scientific semantics and codes² such as payment/non-payment have been imported into the scientific system itself, we may well observe that organisations formerly devoted mainly to education and science are being expected to take non-educational and non-scientific rationalities into account and this not only in terms of subjects of teaching

or objects of research but also at the level of decision-making criteria.

This view on *science–politics–economy* relations is adopted by an impressive body of literature on prominent concepts such as ‘knowledge-based economy’, ‘knowledge-intensive economy’, ‘knowledge economy’ and its dozens of variations. There is even also a ‘knowledge society’, a social nutshell embedding the precious core of knowledge for politically endorsed form of economy flourishing. These and many similar terms have become prominent in political discourses, where terms like ‘knowledge-based economy’ have become pillars and cornerstones of policy documents raising expectations of ‘smart growth’ based on knowledge and innovation (European Commission, 2010; European Council, 2000).

The imposition of non-scientific decision-making criteria onto organisations formerly devoted primarily to (educational and) scientific missions, however, cannot but severely affect their forms of knowledge production. There seems to be a common sense outside of, and even within many, universities that science today should not be science for science's sake. Whatever the cause of the current crisis—financial, climate, COVID-19, a war in Ukraine—the clear message is that science must be no ivory tower in such times. As a result, research funding is increasingly being allocated to research areas defined as relevant not by scientific parameters but by extra-scientific criteria such as economic return on investment or political desirability. Whereas there still are knowledge domains of basic research or, not least, social theory that seem to elude their immediate economic or political instrumentalisation, the amount of economic or political support allocated to these fields is certainly decreasing. As a result, entire research agendas have been (re)shaped and (co-)defined by non-scientific ‘stakeholders’ oriented to non-scientific criteria and motivated by non-scientific mission.

There has been a broad consensus among members of ‘modern learned societies (...) that only Gentlemen can be good scientists’ (Roth & Valentinov, 2023b, p. 5; see also: Shapin, 1988, p. 390). Whereas we today might feel repulsed by the idea that only men of noble or at least genteel background were thought qualified as researchers, the key arguments implicit in this claim are still informative today. First, in early modern times, higher education as required for research careers was typically limited to members of these strata. But the second argument is much more thought provoking: only gentlemen we thought to be financially independent enough not to have their research interests and outcomes defined or at least skewed by financial interests. This literally noble message from the past is still understood in our

¹Whereas we agree with Boulanger and Saltelli (2020) that science is not only or even mainly irritated by politics and economy but also by the mass media, the truth is that even the analysis of a science–politics–economy–media quadrant would not provide a full account of science's relationships to and irritation by all function systems in its environment (Guy, 2018; Roth & Valentinov, 2023a). For illustrative purposes, we shall therefore keep the focus manageable.

²Please see Leydesdorff (2002) on the communication of codified meaning.

times where ‘scientific kingdoms’ are offered for research funding from industry-partners or governments.

Their dependence on external funding, the success in the acquisition of which has turned into *a* or even *the* prime criterion for career pursuit and progression in many national systems of higher education, has often been observed to contract or even cancel the ostensibly *free* time and space necessary for truly independent research. This circumstance is increasingly being publicly decried by the persons concerned and thus also publicly recognised, with one result being a Eurobarometer reporting that about 50% of EU citizens do not trust scientists when (politically) controversial topics are concerned (European Union, 2021, 9).

3.2.2 | Mutual irritation of politics and science

Quite in line with our above discussion on the pacing-and-leading relationship between science and politics, we currently seem to two simultaneous processes: a *politicisation of science* (Boulanger & Saltelli, 2020) and a *scientisation of politics* (Ravetz, 2011). If taken at face value, these two processes would be harmful for both science and politics and would certainly contribute to the further decline in public trust in either of them. Certainly, direct political interventions into scientific operations remain impossible, yet what we observe, at an organisational level, in organisations with primarily political missions (such as governments) deciding on what research projects deserve economic support. The highly disconcerting nature of this arrangement becomes more obvious if, for a second, we imagine that it would predominantly be not governmental agents but church leaders who decide on the weal and woe of scientific projects.

Yet, if we think it to be natural that policy makers make decisions not only on how much money to allocate to research in general but also to define how much money is devoted to which fields, topics or projects, then why should policy makers not ultimately challenge the political ‘neutrality’ of science as a whole? In this context, it is worthwhile to remember that fashionable depreciations of ivory towers and *science for science’s sake* read as both absurd and dangerous as ‘we must finish once and for all with the neutrality of chess. We must condemn once and for all the formula ›chess for the sake of chess‹ like the formula ›art for art’s sake‹’, a quote associated by von Hayek (1944, p. 166) with the basic logic of totalitarian regimes, which is the subordination of science and any other aspect of society under political interests.

If today we are increasingly inclined to believe that it should *not* be science and only science that defines what proper science is, then why should it not be those in power who decide what true science is?

To some extent, the COVID-19 crisis has been a case in point for what may happen if political decision-makers assume the right to pick winners and losers not only in industrial policies but also when it comes to the decision as to what ‘the science’ is ‘we’ need to trust.

As mentioned above, however, attempts at politicisations of science come at the expense of a scientification of politics. A distant dream of philosopher kings to some, many agree today that a total scientification of politics would be as much a ‘road to hell’ and ‘full of good intentions’ as the opposite extreme.

Again, the COVID-19 crisis is instructive insofar as both pharmaceutical and non-pharmaceutical pandemic mitigation measures have been informed by scientific criteria. In fact, political decisions have been made contingent in a near-causal way on results of scientific measurements. In more than one country or region, the mere number of ‘cases’ in a certain sample of the population defined which basic rights the concerned citizens were allowed to exercise. Moreover, many politicians seem to have mutated overnight into semi-professional virologists who relate SARS-CoV-2 and COVID-19 infection, reproduction and fatality rates to one another. The rollouts of ‘vaccines’ and ‘covid-passports’, too, have often been interpreted as processes driven mainly by advances of basic and applied research whose political consequences appeared as subordinate collateral damages as a very natural-scientific understanding of health defined the course of communications and actions.

From a more social-scientific perspective, however, the roll-out of these and many other mitigation measures either unmasked the prevalence of old or the emergence of new forms of discrimination. Some even heralded the dawn of a new form of ‘society of control’ (Altobelli, 2023), although these and similar concerns about health status-based deprivation of rights, the emergence of a culture of surveillance and potential transitions towards new world orders were most often and easily dismissed as fake knowledge or conspiracy theories.

In this context, it appeared indeed as though politicians decided on what was true scientific knowledge, thus seemingly appropriating the code of science for political missions. At the end of the day, however, we must concede that the code of science was neither stolen by nor has infected politics. There was no transfer of scientific elements to politics. All there was were strong levels of mutual irritation, that is,

1. Of politics in terms of the emergence of a new reservoir³ of scientific semantics that political discourses could afford to largely ignore before the COVID-19 crisis and that now seemed required immediate catch-up efforts; and
2. Of science by a noticeable recalibration of the scope of scientific communication that may be uttered without considerable risk of negative political (legal, economic and other social) consequences.

In this context, the proliferation of notions such a 'post-truth society', 'fake news' and 'conspiracy theories' acted as indicators of the changing communicative margins of a recalibrating public sphere, while the compliance or prudence of most scientists allowed for the time the above catch-up efforts required on the political side.

At the same time, these terms were clearly used to depreciate political opponents. As mentioned above, the particularly widespread practice of labelling someone's belief as a 'conspiracy theory' has so far even survived the corroboration of some of the most prominent of these theories, including the 2020 "conspiracy theory" of a pending roll-out of vaccine, health or green passports, which was confirmed in 2021, or the 2021 'conspiracy theories' of insufficient testing protocol and vaccination damages, which are currently being corroborated by a growing number of pertinent studies in solid academic journals.

Against this backdrop, one take-away of the recent intensive mutual irritation of science and politics might be that the term 'conspiracy theory' ought to be used with more care and precision or else simply demoralised and depoliticised as this type of theory is not politically bad per se. In fact, they might also have positive attributes. For instance, they might be observed to help with the preservation of democracy as they serve as 'alarm systems for weak groups' (Uscinski, 2018, p. 6) and the injustice they see themselves confronted with. Thus, belief in conspiracy theories may well go along with respectable psychological motives (Douglas et al., 2017; Douglas et al., 2019; Douglas & Sutton, 2018).

From a scientific perspective, the issue with conspiracy theories is not their potential political impacts but rather the fact that they cannot be falsified. This merely scientific problem, however, does not get in the way of their verifiability. The above two examples are cases in point.

4 | AN EXTENDED CONCEPT OF CORRUPTION

Corruption, in its most common meaning, refers to undue political influence on economic issues or the other way round (Hiller, 2010, pp. 65f). Beyond this standard case of corruption, however, scholarly literature has explored a wide range of concepts and definitions of corruption (see de Graaf et al., 2010). From a social systems-theoretical perspective, Hiller's (2010) approach to corruption is particularly instructive as she defines as corruption all cases when one function system is 'infiltrated by the logic of an extraneous system' (Hiller, 2010, p. 68). This would imply that we may talk of corruption whenever one function system unduly intervenes into another, yet Hiller (2010, p. 70) is quick to explain that 'this infiltration by an extraneous logic does not take place in the functional systems of society, rather at the level where decision-making is determined'. This level is organisation.⁴ If we further insist that, in social systems theory in the tradition of Niklas Luhmann, there is no such thing as infiltration or direct intervention of one system into another, then we can modify Hiller's * that corruption occurs whenever organisations are *irritated* by other systems to such an extent that they cannot properly pursue their ostensible core mission. A bank where decisions are ultimately based not on economic but on political or religious decision criteria would be a case in point.

Such irritation may occur because function systems are characterised by an expansionist drift (Luhmann in Statunato, 2022, p. 205; Teubner, 2011, 2020). Whereas this drift is particularly well-studied for the political and economic subsystem of society, the corresponding trends of a politicisation or economisation of society are by far not the only 'trends in functional differentiation' (Roth et al., 2019, p. 3) but rather run in parallel with similar processes pertaining to the other

⁴Alongside organisations, a highly interesting form with regard to the corruption issue are networks (for instance, networks between business and politics or medicine and business) as particular zones within which linkage of meaning occur (Hiller, 2010, pp. 75–82), so they are particularly 'suitable' for corruption, even there is a certain structural homology and affinity between networks and corruption (Hiller, 2010). Perhaps, advisory boards emerged in many countries during COVID-19 outbreak could be considered as type of such organisational form, namely, network, as overlapping spot between scientists and medical experts at one side, and representatives of governmental bodies/politicians, on the other. Here, corruption might occur at least in a twofold sense: as politisation of science and as a scientification of politics what was very well documented by Sakai (2023) in the case of Japan. The observation of operations of advisory boards as corrupted offers satisfactory explanation why work of advisory boards performed that weakly in many countries across globe.

³Please see Neisig (2017, 2021, 2023) on the emergence and potential design of semantic reservoirs.

function system such as the scientificisation, medicalisation or juridification of society. With special regard but not limited to the economy and the legal system, Teubner has argued that the function systems' inherent compulsion to growth (Teubner, 2011) might trigger 'self-damaging social behaviour' (Teubner, 2020, p. 13), though the level of systems-reference of this perceived auto-destruction remained somewhat opaque in this case.

If not necessarily at the level of function systems, however, auto-destructive tendencies can safely be observed at the level of organisations. Though multifunctional by design, most organisations are focused on one (or a small set of) function system(s) (Roth & Valentinov, 2023a) and runs decision programmes that are more or less aligned with their core mission(s). Yet if organisations over-identify society with one of the above trends and thus subscribe to expansionist claims of the corresponding function system(s), they might lose their capacity of pursuing their original mission. While our approach does not categorically exclude the possibility that organisations deliberately replace or switch between primary function system reference(s), we can now define corruption all cases where organisational decision-making is out of synch with the organisation's official core mission (see Hiller, 2010, pp. 67–72) because this organisation's programmes are strongly irritated by those of another organisation. Take the example of a powerful organisation, for example, a state, that is strongly irritated by a particular scientific or religious worldview. This state predominantly spends money on research and teaching that is aligned with this worldview. Receiving organisations might then be incited to make personnel decisions contingent on the members' capacity to produce research and teaching outcomes that are aligned with this worldview. The resulting self-selection might at some point effectively undermine the receiving organisation's capacity to fulfil its original research and teaching mission as it turns this organisation into an arena of scientifically or religiously legitimised political activism and mission oriented 'research'. Such an organisation may safely be assumed to be corrupted for at least as long as the organisation does not identify and disclose its transformation or revert to its original mission.

Apparently, these considerations are critical for the debate above on public decline of trust into science as the result of corruptions of the above type include pseudoscience, epistemic anarchism or flattened epistemology. This claim becomes comprehensible if we put it in historical context.

5 | FREEDOM OF INQUIRY AS PREREQUISITE FOR DEMOCRACY

The importance of freedom in scientific research, or free inquiry in a more general sense (Brown & Guston, 2009) has long been recognised by historical figures such as Condorcet, J.S. Mill and German theorists of democracy in the 19th century (Wilholt, 2010). It is also emphasised in contemporary times by the World Congress for Freedom of Scientific Research (2023) nowadays.

Science, however, can provide its service to other function systems only if its basic form of operation, and thus its function to society as a whole, remains intact. This means more than saying 'that the practices and institutions generating the scientific knowledge that citizens rely upon should enjoy independence from the major political powers. Otherwise, the democratic process would be undermined ...' (Wilholt, 2010, p. 177). Again, the measure of all things scientific is not their impact on this desirable political agenda or that preferred political regime. What this means is that policy makers as much as business leaders score nothing but own goals if they confuse scientists with providers of compliant opinions or complaisant results; if these and similar genres are required, they better turn to providers of (science) fiction. What this means further is that non-scientist necessarily lack the capacity to define what proper science is and which 'grand challenges' (Fritzsche, 2022) actually qualify as relevant *research* problems.

This issue has, tacitly, been recognised in terms of soaring calls for more effective forms of science communication. The issue here, however, is that deficits in the field of science communication are far too often attributed again to traits and customs of the inhabitants of the notorious 'ivory towers' in which researchers indulge in leisurely contemplation. As a result, science communication is now forth on the list of tasks and missions right after teaching, research and fundraising. Yet, obviously, this list goes on as a truly devoted faculty member would also be expected to be a political activist both within and beyond the premises of the host institution of higher education.

The paradox here is that the more, and the more functionally diverse, tasks have been added to their job profiles, the lower the trust in and social prestige of the former researcher-teachers turned researchers-teachers-fundraisers-journalists-activists-and so on. This development is only consequential not only because of the (self-) overburdening involved but also because in each of the above domains, our multitasking faculty members compete with true specialist in these fields. Thus, whatever

the individual faculty member does and no matter how well, in most cases, it could necessarily be done better by somebody else. In this sense, demands for our pursuit of an ever-broader scope of ‘third missions’ ultimately boil down to a programme for the planned obsolescence of our profession.

Against the backdrop of science policies that systematically overburden scientific personnel and organisations in pursuit of various development goals or common goods, thereby eroding the core functions on which policymakers critically depend and believe they are paying for as a service, one solution might not be an ‘epistemic anarchism’ that equates the value of scientific theories and methods with that of extra-scientific beliefs or opinions but rather an approach of ‘anarchic science’. All this still somewhat political concept can convey is a mere social fact: that science is, by default, not politics and, thus, free of politics. What may not be totally free of politics, and probably never will, are organisations for which the pursuit of science is their core mission.

In view of these organisations, science policy has two basic options:

1. The first option is to require these organisations to meet an increasing number of extra-scientific expectations. The goal here might be to increasingly align these organisations with extra-scientific (e.g., governmental) missions in a bid to ensure that the research outcomes be ‘useful’ in one way or another. The risk, however, is that the extra-scientific requirements bind an increasing amount of the organisations’ resources up to a point where the organisations are concerned more with extra-scientific than scientific operations. At this point, however, science policy might be observed to have *corrupted* the organisations at stake as the organisation might still sail under the flag of science while already delivering a totally different freight. If not intended as such, naïve cooperation with such false-flag organisations would certainly prove dysfunctional not least for the governments whose policies have triggered the underlying processes.
2. The second option is to implement science policies that account for the inevitably non-political nature of science and thus support the design of organisations that devote only the least possible amount of time and resources to extra-scientific operations. This involves the greatest possible absence not so much of internal micro-politics but rather of external control. The apparent risk here is that some of these organisations will drift away to realms or outcomes no policy maker has ever heard of or ever will see. Yet, the advantage is that these organisations will be truly useful as

augmented sense organs for policy makers as they will not just mirror their most salient extra-scientific stakeholders by meeting their expectations and answering their questions but rather produce their own research questions and answers that also shake and challenge rather than just fine-tune, embellish or pseudo-legitimise their stakeholders’ worldviews.

Even if to some readers the above two options might resemble ideal types rather than real-life cases of (formerly) scientific organisations, the ideal expressed in Option 2 may act as a beneficial counterweight to the current trend of a ‘forification’ (Roth et al., 2023) of virtually all forms of organisation, that is, the over-burdening of organisations with missions other than those for which they were created in first place.

Why should it be that in syllabus and curriculum design, research funding application forms or submission systems for papers to academic conferences, we are more and more often expected to tick boxes that indicate to the achievement of which of the 17 United Nations Sustainable Development Goals our syllabi, project or papers make a contribution? Is the implicit message here that research that does *not* contribute to the missions defined by an inter-governmental organisation, whose members are certainly not all flawless democracies, is of only secondary importance, if important at all? Is the message that political goals should, in case of doubt, ultimately trump all other non-political goals, including scientific ones? That politics (and not the other function systems of society, including science) has the final say on what ‘social’ impact is?

If science policies pursue the claim that politics defines which forms of science are relevant to society as a whole, and representatives of science give in to this self-confusion of politics with society, then the best that policy makers and handpicked ‘scientists’ alike might get out of science in most cases is so-called applied science, a form of refunctionalisation of scientific knowledge for purposes other than science. The question whether this mode of science can truly perform the function science has for society, however, must remain open at this point.

6 | CONCLUSIONS

There is no such thing as ‘the science’ that ‘we’ could all follow. Science is not monolithic. In a same vein, the political units we refer to as states are not ‘the society’ they tend to confuse themselves with; thus, its representatives do not speak for ‘their society’ even if they are elected democratically. The COVID-19 crisis has shown that science and politics have intensively irritated one

another. The outcome of this intensive mutual irritation has not been assessed as functional by everyone. One way to prevent perceived dysfunctionalities in the context of future pandemics and other crisis are communicative buffers ‘that are designed such that they can absorb shock waves from other function systems’ (Roth & Valentinov, 2023a, p. 7). Though theoretical in nature, these buffers may be effective not only in the relationship of science and politics or any other function system but also in the mutual relationships between the non-scientific function systems. The most effective buffer is the idea that science and politics (and all other function systems) cannot intervene directly and causally into one another. There is hence no such thing as a science whose basic operations have been in parts or completely replaced by political or economic ones. Whatever trends or interventions we observe are, therefore, located at a different level of analysis, namely, that of organisation. At the organisation level, we can indeed observe that mutual irritations between organisations result in changes in their decision-making programmes that may go as far as to the point where they contradict the original organisational mission or purpose. Observers of this situation, including the concerned organisations themselves, may then conclude that these organisations have been corrupted.

This observation also implies that corruption as a social phenomenon is not limited to operations such as bribing, that is, legally problematic relationships between the economic and the political systems. Apparently, many scholars currently observe similarly problematic relationships between economy, politics and science against the backdrop of a perceived ‘neoliberalisation’ of universities (Alvesson et al., 2022; Jemielniak & Greenwood, 2015). Universities, however, may also face problematic relationships at the interfaces of science, politics and health. The recent COVID-19 crisis, where universities as much as many other organisations found themselves under considerable pressure to align with political and ‘health imperatives’, is a case in point.

A more comprehensive and systematic approach to the concept corruption, in the sense of situations where organisations see themselves (over-)burdened with missions other than their ostensible goals, therefore, appears as a worthy goal if science and many other non-political function systems are not to be blurred by misrecognition, discredited by instrumentalisation or marginalised by neglect.

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