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(De)constructing the ‘scientist with integrity’

A case study of research integrity training for PhD fellows in the medical sciences

By Laura Louise Sarauw and Simone Mejding Poulsen

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**(De)constructing the 'scientist with integrity'
A case study of research integrity training for PhD fellows in
the medical sciences**

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0 The ‘Practicing integrity’ project and the context of this paper

This working paper arises from larger research project, ‘Practicing Integrity’, funded by the Danish Ministry of Higher Education and Science (2017-19). This project researched the history of the emergence of international and national codes of ‘integrity’, how they were being translated into institutional procedures and educational courses, and how early stage researchers navigated their requirements in the context of management and performance incentives, research and funding conditions and the challenges of career development.

As part of this project, we interviewed the teachers and observed the new research integrity training for early career researchers at four different faculties at a larger Danish university. Whilst a comparative ethnography, comprising our overall findings across disciplinary borders has been published elsewhere (Sarauw, Degn and Ørberg, 2019), this paper provides a detailed analysis of our fieldwork on the integrity course for PhD fellows at the medical faculty. The fieldwork included a series of follow-up interviews and was undertaken by author 1 in the period April 2017 - December 2018.

1. Introduction

Sparked by occasional, yet highly publicized, scandals of research malpractice and a general debate about the accountability of research, several policies and guidelines for research integrity have been produced in the last decade. As part of this development, education has become a crucial site for the enactment and development of a university culture of research integrity and responsible conduct of research (RCR) (ALLEA, 2017; ESFORI, 2007; Ministry of Higher Education and Science, 2014). The Danish Code for Research Integrity (DCCRI) from 2014 states that teaching is central to strengthening research integrity in accordance with guiding comments on publication and data collection practices and institutional intervention systems. In a separate chapter on research integrity teaching, training and supervision it is stated that the institutions are responsible for ensuring integrity training for all members of staff (Ministry of Science and Education, 2014: 16).

Building on rich ethnographic material, this paper explores how this vision has been adopted and carried out in the new mandatory integrity training for PhD fellows at a medical faculty in Denmark. The analysis explores how ‘the deviant scientist’ is constructed as a problematized subject position in the emerging field of research integrity training. Following the French philosopher,

Michel Foucault (2006 [1963], 1979 [1975]), we understand ‘deviance’ to be a governmentality rationale that preconditions normalisation of particular norms by defining what they are not.

Against this background, we show how the narrative pedagogical practices in our empirical observations contribute to normalising a regime in which the individual is expected to monitor and control what is understood as an inherent human inclination to cheat. Analytically we focus on the narrative discrimination between the ‘big cheater’ (referring to the highly publicised figures of scandal, Paolo Macchiarini and Milena Penkowa, who were found to have fabricated research and falsified results, and were accused of fraud and embezzlement) and the ‘small cheater’ (referring to the idea that all researchers are already cheaters in small everyday matters and this includes the PhD fellows on the integrity course). We end the paper by discussing how this construction and appropriation of ‘the deviant scientist’ may relate to an overall shift within the governmentality technologies of academia from autonomy over government intervention to self-surveillance and self-correction (Montgomery and Oliver, 2009; Shore, 2017).

1.1 The composition of the paper

The paper is divided in four main sections. As part of this introduction, in section 1.2., we present the ethnographic material from our field work on the integrity course at the medical faculty. In *section two*, we introduce our analytical framework, revolving around the French philosopher Michel Foucault’s (1973, 1979) works on the construction and delimitation of ‘the deviant’ as a governmentality tool. With Foucault we suggest that shifting meanings of ‘integrity’ can be followed by following the ways in which ‘the deviant scientist’ has been constructed and problematised differently across different actors and sites as means for legitimising different types of intervention. In *section three* we situate our case study internationally, within the historical context of the emergence of research integrity as a policy concept. Based on earlier reviews (Montgomery and Oliver, 2009; Douglas-Jones and Wright, 2017), we outline the interplay between tendencies in our ethnographic material and overall international development. In doing so, we aim to identify a shift in the governmentality technologies in academia from autonomy over government intervention to self-surveillance and responsabilisation of the individual scientist. In *section four* we present a detailed analysis of how The Danish Code for Research Integrity (DCCRI) was adopted and carried out in the integrity course for PhD fellows at the medical faculty. The analysis is divided into four sub-sections, exploring different elements of the course. In conclusion, we discuss how this

construction of ‘the deviant scientist’ and how its implicit opposite, ‘the scientist with integrity’, which was the desired outcome of the course, may relate to an overall shift within the governmentality technologies of academia from autonomy over government intervention to self-surveillance and self-correction (Montgomery and Oliver, 2009; Wright et al., 2019).

1.2. *Ethnographic data*

The ethnographic material on which this article is based derives from fieldwork at a compulsory integrity course for PhD fellows at the faculty of medicine at a Danish University, conducted in spring 2017. The fieldwork included observations during the two-day PhD course with 24 attending participants, interviews with the course leader and one of the teachers (see also Sarauw, Degn and Ørberg, 2019; Sarauw, forthcoming 2019). A focus group interview with 6 participants was undertaken immediately after the course and three PhD fellows were interviewed individually, in two rounds, six months and twelve months after the course. All interviews were semi-structured and informed by the observations arising from the fieldwork, including a comprehensive study of local policy documents on integrity, course materials and an online questionnaire that was circulated among the participants a few days before the course. The course was taught in English, but all interviews were conducted in Danish and transcribed in full length verbatim. All quotes in the article are our English translations of the original Danish wording.

2. Analytical framework

With reference to the extensive concern with scandal as a key motive for employing integrity training for early career researchers, we introduce the French philosopher, Michel Foucault’s (2006 [1963], 1979 [1975]) notion of ‘deviance’ as a rationale of governance that preconditions and shapes our understanding of the ‘normal’ and ‘rational’. In this view, the figures of ‘the deviant scientist’ in our ethnographic material precondition what is, implicitly, understood as ‘the integrative researcher’. We operationalise these ideas by studying the ways in which ‘the deviant scientist’ has been constructed and problematised differently by different actors in different sites and how this is a means for legitimising different types of intervention (Shore and Wright, 1998; Bacchi, 2009). This method, we

argue, is key to understanding the shift towards an increased responsabilisation of the individual researcher, which takes place at the integrity course in our fieldwork.

2.1. ‘Scandal’ and ‘deviance’ as disciplining practice

The institutional concern with research integrity emerged in the 1960s and 1970s (Montgomery and Oliver, 2009; Douglas-Jones and Wright, 2017). According to previous reviews, the concern with research integrity was sparked dramatically during the 1990s by an increased number of scandals, and scandals played a major role in the development of policies which gave academic institutions responsibilities for offering research integrity training to all members of staff (ibid.). In Denmark, the so-called Penkowa scandal was a case in point, when one of Denmark’s star neuroscientists and winner of the national Elite Research prize was found to have fabricated her research and falsified results, and was accused of fraud and embezzlement (Callaway, 2012; Degn, 2018; Sarauw, Degn and Ørberg, 2019). Tellingly, at the University of Copenhagen, where Penkowa was employed, the integrity courses that the university began to offer were simply nicknamed “Penkowa courses”. In other words, Penkowa was literally an example of a problematized figure of ‘the deviant scientist’, which has become co-constitutive of the integrity training for early career researchers that is our concern in this paper.

According to Michel Foucault (1926-84), every society delineates and defines itself as opposed to something else and delineates its identity by marking what it is and what it is not. In his works (2006 (1963), 1979 (1975)) Foucault examined the relation between ‘deviance’ as a social construction, the emergence of powerful, state institutions and their mechanisms of control. He described how Western culture had labelled and sought to isolate irrationality by exposing ‘the deviant’ to moral confinement, and later, various forms of medical or psychological treatment were used as means of constructing Western culture as ‘reasonable’ and ‘rational’.

In the following analysis we add the idea of ‘acting with integrity’ alongside ‘reasonable’ and ‘rational’ to the Foucaultian list of historically embedded opposites to the construction of ‘the deviant’. In other words, we explore how particular ‘deviant figures’ in our fieldwork on the integrity course served to delineate the opposing features of the desired subject positions – namely those of the ‘scientist with integrity’. We show how the pedagogic narratives used on the integrity course comprised two problematised subject positions of the deviant scientist: That of the ‘big cheater’, like Penkowa and Macchiarini, and that of the ‘small cheater’, who cheats a little

bit on an everyday level, for example in regards to co-authorship in order to keep up with the pressures from a highly competitive research environment. With reference to course pedagogies that encouraged the PhD fellows to consider themselves as (unconscious) ‘small cheaters’ on an everyday level, we show how the PhD fellows were placed in a problematised position to which a continuous self-monitoring and self-correction was projected as the only solution. The integrity training in our fieldwork therefore implied an increased responsabilisation of the individual, which is far from the description of the responsibility of the institutions and senior researchers in codes of conduct such as ALLEA (2017), and DCCRI (2014).

2.2. Problem narratives and constructions of ‘the deviant scientist’

To Foucault, problematised subject positions such as that of ‘the deviant scientist’ are historically contingent, representing particular responses, to particular problems, at particular times – and this also applies to the emerging field of research integrity training, which must be analysed as a historically contingent response to particular problematisations.

Building on Shore and Wright (1997) and Bacchi (2009), we argue that problematisations work as instruments of governance through construction of certain narratives that define a particular problem and its solution as common sense and without alternatives. In our analyses we will expose the historical and local embeddedness of ‘the deviant scientist’ as a problematised figure. In doing so, we outline the ways in which different problematisations of ‘the deviant scientist’ imply different projections of its opposite, ‘the scientist with integrity’ and also of the means of intervention. Firstly, with reference to previous reviews of the historical formation of the institutional concern with ‘research integrity’ (Montgomery and Oliver, 2009; Douglas-Jones and Wright, 2017) we outline how different problematisations, over time, have led to the projection of different solutions.

This historical review informs our case analysis of the integrity course at the medical faculty, presented in section 4. In this part of the analysis, we are concerned with the ways in which the prevalent figures of ‘the deviant scientist’, i.e. problematized identities and subject positions, create different charters for (pedagogical) intervention (Bacchi, 2009; Shore and Wright, 2011). In doing so, we show that the integrity course is presented as the ‘solution’ to a narrative that problematises not only the ‘big cheaters’ of highly publicized scandals, such as Paolo Macchiarini and Milena Penkowa. It also problematizes the (unconscious) ‘small cheater’, who commits small

breaches on an everyday level. This double problematisation, in which ‘deviance’ becomes an inescapable everyday phenomenon leads to an individualisation of responsibility.

3. From governance to self-regulation through reflexivity and training

In this section, we situate the increased concern with doctoral integrity training within an international and historical framework. We do so with the purpose of identifying and discussing our case study of the doctoral integrity training at the medical faculty within an overall shift within the government technologies in academia. From little or no governmental interference in scientific conduct, we trace the increase of government-initiated regulations to prevent and penalise misconduct, and, currently, the promotion of research integrity through codes, guidelines and training with the aim of creating a higher degree of self-regulation within the field. We argue that these shifts are reflected in shifting in ways of constructing and dealing with the problematised figure of the ‘deviant scientist’.

3.1. QRP and the reflexive imperative

According to a comprehensive review by Douglas-Jones and Wright (2017) *research integrity* emerged as a policy concept in the early 1990s, in the USA, before dispersing internationally. A historical study by Montgomery and Oliver (2009) suggests that the concept’s prehistory must be seen in the light of a series of shift in the guidelines for ethical scientific conduct. Montgomery and Oliver (2009: 141) identify three historical periods comprising significant changes in the governing logics and ways of handling ‘deviance’ from the norm. The logics of the three periods do not replace one another successively. Rather, some mechanisms last and are assimilated into the next, resulting in a yet more comprehensive and complex governance.

In period 1, which Montgomery and Oliver defined as the period until 1975, the dominant logic was characterised by an absence of regulation, formal policies, and codes of conduct or training. The prevalent attitude of this period was that science was grounded in the values described by Robert Merton’s concepts of universalism, communalism, disinterestedness and organized scepticism, and it was assumed that scientists would internalize these values as a professional ethics through socialization. Science was perceived as effectively self-regulatory, based on professionalism with no

need of outside regulations. With Foucault, we argue that a strong projection of ‘the deviant scientist’ was not needed as means of constructing ‘the scientist with integrity’.

In period 2, from 1975 to 1990, the self-regulatory regime was replaced by the introduction of a series of mechanisms for *preventing and penalising scientific misconduct*. According to Montgomery and Oliver, a greater public awareness of fraudulent research and questionable research threatened the credibility of science. This resulted in a series of governmental policies, committees and reports to prevent scientific misconduct (ibid.: 142-46). In other words, science was no longer considered self-regulatory and the formal definition of scientific ‘misconduct’ as intentional and deliberate fabrication, falsification and plagiarism (FFP) was established on a par with an understanding of ‘deviance’.

In period 3, from 1990 to the present, the concept of research integrity took centre stage with a new emphasis on research integrity training. Montgomery and Oliver characterise this period as a period of *promoting research integrity*. New policies gave academic institutions responsibility for “diffusing integrity norms via reports, conferences, journals and formal training” (ibid.: 142). New behavioural guidelines and codes of conduct were key to this development, in which the policy attention was no longer merely on avoiding scientific misconduct as much as ensuring a continuously responsible conduct of research. Institutions were at the same time given a larger responsibility for ensuring this development through for example training programs. The argument for the new need for more complex systems to ensure the integrity of science (which we can also track in our case study at the university of our fieldwork, cf. section 4.) was that the scientific community and the researchers within it, were under increased pressure from e.g. competition for funding and career advancement, higher publication output, etc. (ibid.: 148-149).

Douglas-Jones and Wright’s (2017) study of the Danish context, reveals a similar pattern. The first national policy initiatives to prevent misconduct appeared in the early 1990s, and as in period 2, Denmark at this time was characterized by efforts to prevent scientific misconduct through different governmental initiatives such as laws on misconduct, institutional policies and different kind of committees to deal with cases of misconduct. The Committee on Scientific Dishonesty (in Danish: Udvalgene Vedrørende Videnskabelig Uredelighed) within the medical sciences was established by the Ministry of Science, Technology and Innovation in Denmark in 1992 and in 1998 the committee was extended to include all areas of research (Douglas-Jones and Wright, 2017: 26; Danish National Research Foundation, 2019). These committees dealt with serious cases of scientific misconduct, establishing a clear notion of ‘deviance’, defined as “actions or omissions resulting in falsification or

distortion of the scientific results or gross misrepresentation of an individual's contribution to the research" committed intentionally and specifically concerning cases of fabrication, falsification and plagiarism (FFP) (Ministry of Science, Technology and Innovation, 1998:1, §3).

The shift towards promoting integrity (as in period 3) rather than preventing and penalising misconduct, became present in the late 2000s with the publication of new guidelines for good scientific conduct. These guidelines included *Guidelines for good scientific practice* from 2009 and *the Danish Code of Conduct for Research Integrity* from 2014. The latter was enacted by the Danish Ministry of Higher Education and Science to "ensure credibility, integrity and thereby quality in Danish research through common principles and standards for responsible conduct of research" (Ministry of Higher Education and Science, 2014). In 2017, a new law on scientific misconduct was passed (Danish Parliament, 2017). This law is interesting for this case study because it discriminates between *research misconduct*, defined as intentional fabrication, falsification and plagiarism and *questionable research practice* (QRP), defined as "breaches of current standards on responsible conduct of research, including those of the Danish code of conduct, and other applicable institutional, national and international practices and guidelines on research integrity" (Ministry of Higher Education and Science, 2019).

The new category of QRP implies a notion of 'deviance', which is open to interpretation. QRP is located in a grey zone between 'responsible research conduct' and 'misconduct'. QRPs can be found in relation to authorship, study design, data collection, data analysis, reporting, collaboration, and much more, but whereas period 2 had a relatively clear definition of 'deviance' as intentional fabrication, falsification or plagiarism (FFP) in stark opposition to 'good scientific conduct', the emergence of the QRP category opened a much wider space for categorising something as 'deviant', while at the same time shrinking the room for behaviour that displayed research integrity.

In our case study of the integrity training for PhD fellows at the medical faculty, which follows after this section, we argue that the new emphasis on integrity training as well as the specific pedagogic design of the course that we observed reflected an increased quest for individual reflexivity – a quest which was implied in the term QRP where neither 'deviance' nor what constitutes 'good scientific practice' is clearly defined. The shift from period 2 to period 3 not only implied a shift from a 'negative' government rationale of prohibition and punishment to 'positive' self-governance through enlightenment and education. With Foucault (1963, 1975) we argue that this vague construction of 'deviance' which is introduced with the new emphasis on QRP, must be seen as mode of governance - a *conduct of conduct* in the Foucaultian terminology - in that it makes the risk of behaving

‘deviantly’ more prominent. From a purely theoretical point of view, one can argue that the increased emphasis on QRP goes hand in hand with a pervasive reflexive imperative, since it is most often unclear what is considered right or wrong conduct. Our case study of the integrity training at the medical faculty, however, not only showed that the emphasis of the teaching was on avoiding QRP rather than the FFPs, and this corresponded to the teachers’ construction of the problematised figure of ‘the deviant’ as the everyday ‘small cheater’. Furthermore, this figure of ‘the deviant’ was invoked and problematised by a series of student activating pedagogies, aiming at mobilising the participants’ reflexivity in relation to their own research practices, and through which the responsibility for keeping one-self on track was handed over to the individual.

3.2. Local narratives about integrity training and ‘the deviant scientist’

In this section, we briefly outline how the DCCRI and its demands for training in research integrity have been taken up by the Danish university in our field work. We suggest that a vague definition of ‘deviance’ was a precondition for the shift from preventing and penalising misconduct by policy intervention (period 2) towards promoting research integrity by means of integrity training with the aim of individual self-correction (period 3).

The emphasis on promoting research integrity through formal training is manifest in a number of policies and prevails in different scientific fields and at different institutional levels (Douglas-Jones and Wright, 2017; Degn, 2018; Sarauw, Degn and Ørberg, 2019). The ALLEA European Code for Research Integrity (ALLEA, 2017) states that training should make sure that all researchers are made aware of codes and regulations, all should receive ‘rigorous training in research design, methodology and analysis’, and senior researchers should act as mentors in order to facilitate ‘a culture of research integrity’. The Danish Code of Conduct for Research Integrity (2014) states that teaching is as important an element in developing an academic culture of research integrity as guidance on publication and data-collection practices and an institution’s systems of intervention. In the code, institutions are said to be responsible for ensuring integrity training for all members of staff (Ministry of Science and Education, 2014: 16) and that senior staff, such as PhD supervisors, are expected to act as role models and provide guidance for Master’s students, PhD students, and less experienced colleagues. (ibid: 17).

In line with the DCCRI, the university where we conducted our field work had a strategy for responsible conduct of research that made it clear that integrity training for early career academics

was intended to cut across all fields of inquiry and enhance a common understanding of research integrity. The four faculties, however, interpreted this demand quite differently in terms of the integrity training offered to early career scientists (Sarauw, Degn and Ørberg 2019). Due to different faculty policies, scientific virtues and levels of support, the design of the four courses, their allocation of ECTS-allocation and pedagogies varied significantly.

As a result of local negotiations between the course developers and teachers, faculty leadership, PhD school leaders, and steering committees there was also great variation in problem narratives about research integrity in the four faculties' PhD training courses (Sarauw, Degn and Ørberg, 2019; Wright et al., 2019). These ranged from the idea that research integrity is hard to achieve because the university system is broken by funding, promotion and other incentives that operate against good practice, to the idea that researchers are inherently 'small cheaters' and individuals have to navigate an inimical culture. One other faculty course argued that 'good science' is achievable by following standard procedures of validity and reliability, whereas another presented research as a continual process of making ethical judgements (ibid.). It was generally unclear whether responsibility for research integrity lay with the individual or the institution, whether the problem was a 'rotten system' or 'rotten apple'. The PhD fellows at the integrity courses generally found themselves in a tense situation, trying to be good researchers, while positioning themselves in a system with diverse forms of accountability (Sarauw, Degn and Ørberg, 2019).

In the following section we elaborate on the findings from our case study at the medical faculty in further detail. In doing so we will argue that the integrity course may be seen as an example of this general tension between ideas of responsible research conduct and diverse forms of accountability. The local emphasis on QRP implied a problematized figure of 'the deviant scientist' as an individual who is not able to resist the structural pressures of 'small cheating' concerning, for example, co-authorship. The problematisation of the structure of the international and national policy documents was partially replaced by a problematisation of the individual scientist. We begin by introducing the course format, content and pedagogical framework.

4. The case study – course format, content and pedagogic framework

The PhD course, Responsible Conduct of Research (RCR), was offered by the university's graduate school. The course had a capacity for 24 participants, and had a full workload of 3.10 ECTS (European Credit Transfer System) points. The course had been mandatory for all PhD fellows since spring 2016 and had been running approximately four times a year to cover the demand. The course was opened with an 8 hour introductory online session, followed by two independent course days (1 day + ½ a day). The learning objectives, listed in the course description, included: 1) familiarity with DCCRI, guidelines and standards, 2) understanding principles of integrity and responsible conduct of research, and 3) ability to identify misconduct and questionable research practice. A teaching team of 6-7 experts covered these topics and issues.

On the first day of the course there were seven 45-minute sessions. After the first day there was a break of two weeks. During the break, the participants worked on an assignment about dilemmas with QRP or cases of malpractice that they had experienced or heard about in their own research environment. Then, for half a day, the participants met and discussed their case-work. The last day also included a lecture about conflicts of interest and procedures for handling suspicions of research misconduct. The teaching was based on a combination of lecturing and active participation for example through on-line polls, plenary and group discussions of cases and the individual case assignment.

4.1. The problem narratives and 'hidden curriculum' of the integrity course

The formal learning objectives of the course were in line with the narrative in the university's integrity strategy and the focus on understanding and complying with national and international standards and guidelines. However, our fieldwork observations and interviews with the course leader and teacher unveiled a 'hidden curriculum' (Dewey, 1916) in terms of a reflexive imperative that would fundamentally change the way in which the course participants understood themselves as scientists, their research practice and responsibilities and their room of manoeuvre within the research community.

Firstly, the course was structured around a series of student activating pedagogies that invited the participants to reflect upon their own practices and/or their experiences with their supervisors, research teams and research community.

Secondly, a shared problem narrative revolving around QRP as the result of ‘human fallibility’ versus ‘scientists’ obligation to truth’ ran through all sessions. There were variations in terms of the style of the different teachers, but it was often repeated that ‘small cheating’ is more prevalent than one thinks. It was, in other words, expected that the course participants would meet ‘small cheating’ sooner or later in their career and that this demanded an awareness of one’s own human fallibility. The teachers positioned an idea of research integrity and the individual researcher’s obligation to truth as ‘pure science’ in opposition to individual ‘human fallibility’. This approach corresponded to a ‘hidden curriculum’ that revolved around continuous self-surveillance and self-correction.

Thirdly, the teachers emphasised that the individual, the institution and society had a shared interest in a continuous pursuit of truth, while all kinds of ‘deviance’, including that of the everyday “small cheater” contributed to creating a ‘post-truth society’. Not only did cheating damage the individual’s career, but also the reputation of the universities and their ability to gain funding. In this vein, the participants were positioned as agents for creating a better future for all. As we unfold in the following analysis of our observations, these three narratives implicitly contributed to individualise the desired subject position – the ‘with integrity researcher’ - as a question of continuous personal reflexivity.

4.2. The ‘big cheater’ and the ‘small cheater’ – ordering ‘deviance’ on the scale of cheating

In the course sessions as well as in our interviews with the course leader and teacher, the QRP ‘small cheater’ was problematised and outlined as the object of pedagogical intervention. This was clear in the introductory session when participants were introduced to the classifications of breaches of responsible conduct in the recent law on scientific misconduct (Danish Parliament, 2017, cf. section 3.1.). The following is an extract from our observations:

In the introductory session about the basic principles and values of RCR (Responsible Conduct of Research), RCR was chiefly defined in terms of what it was not, rather than what it was and these antagonisms were placed on a scale, ranging from questionable research practice (QRP) which is a mild form of cheating, followed by misconduct and finally the serious cases of fraud, fabrication, falsification and plagiarism (FFP). The teacher continued explaining that the serious cases of fraud could not be prevented by training because they were committed by people with ill intent. Nevertheless, we are all guilty of small everyday lies with regards to for example authorship, which are often done unconsciously and without bad intentions. Unlike fraud, the questionable research practice can be avoided if we begin perceiving ourselves as potential cheaters. (Author 1's field notes, Faculty of Medicine, April 2017)

Following our field notes, the classifications were ordered on a scale ranging from *questionable research practice* (QRP), which was identified as 'mild cheating', to a middle category of *misconduct*, and at the other extreme, fabrication, falsification and plagiarism (FFP), which was identified as "serious cases of fraud". This 'scale of cheating' was key to the problem narrative that was disseminated to the course participants because it supported the construction of two types of problematised subject positions: the 'small cheater' and the 'big cheater'. Both subject positions were problematised because of their practice of cheating and thus positioned within the bounds of deviance compared to 'good scientific conduct'. The two figures are characterized by practices of cheating at different points of the scale, and were thereby appointed different inherent qualities. As outlined in the field notes, it was the "mild form of cheating" and its associated subject position that was constructed as the object of pedagogical intervention in the course.

In the following quote, one of the teachers, who also participated in the working group behind the development of the integrity course, explained that the idea of focusing on the QRP "small cheaters" was developed on the basis of the teachers' experiences with the first courses:

In the beginning we discussed whether they would even have anything to write about [for their homework assignment]. They are just starting [their PhD] so what do they know about it? But then we said: "You are going to write up a case. It can be from your own experience, but it is okay if you make something up". Then what happened was, we saw already from the get go, which was confirmed the second, third, fourth and fifth time, that there was a degree of detail

in the cases that could not be fictitious. It was very, very clear that they have experienced this first hand. Then it hit me; it is here at [the faculty of medicine] that they experience this. They know what it is about, and that is why we, as a group [the teaching team], could go out afterwards and say: “You know what. This is bigger than you would expect. Maybe you all have something but think is not a big deal with you. But it is out there.” Those two polls I did, they showed it too. I mean, 80 % say they know of it and they are PhD fellows. It is not like they have had years of experience and met thousands of scientists, but 80 % say they know that it is going on. That is why I think we have every reason, well we even have evidence, to claim that it is more common than first expected. I also think that the research I have used today [in the lecture] shows that we are all small cheaters, because we all want to take short cuts to make life easier for ourselves, without then becoming the these big, big cheaters and not being able to look at ourselves in the mirror. Because we won’t lie about the death of our parents, right? That would be too much. (Author 1’s interview with teacher, April 2017)

In the quote, the teacher refers to the participants’ case assignments, in which the participants were asked to write up a case, based on their lived experiences with QRP as means of evidencing that small acts of cheating are very prevalent. Furthermore, the teacher makes a distinction between two deviant positions: the “small cheaters” and the “big cheaters”, representing the two outer poles of the ‘scale of cheating’, described above. The subject position “big cheater” is constituted as the scientist, who intentionally commits serious and significant fraud. This is for example underpinned by the comment that “(b)ecause we won’t lie about the death of our parents, right?” which refers to famous Danish Penkowa scandal, in which Penkowa was not only accused of fabricating data in order to gain personal fame and acknowledgement. She also lied about the death of her family to cover up her fraud. By referring to this part of the case, the teacher signalled that the subject position of the “big cheater” is considered very outrageous, while the “small cheater” position is on the other hand close to normal.

According to our field notes (quoted on p. 14) the subject position of the “big cheater” is identified as an individual whose deviance is beyond pedagogical influence due to an inherent wicked nature. On the course, this position often emerged with reference to the highly publicised Penkowa scandal - the very personification of a kind of ‘deviance’, which is positioned at the furthest end of the scale, and cannot be prevented by integrity training or any other kind of education. In the above

quote the teacher uses the “big cheater” narrative to normalise the position of the “small cheater”. According to this narrative it is so prevalent that it is close to normal. In this vein, the teacher legitimises the “small cheater” as the natural object of pedagogical intervention at the integrity course.

In our field work observations and interviews with the course leader and teacher this “small cheater” figure was not described as inherently bad. Whereas the “big cheater” would intentionally commit fraud for personal gain, the subject position of the “small cheater” was identified as the scientist who commits what was categorised as “mild cheating” (e.g. cutting corners, telling small white lies or forgetting or neglecting different guidelines) without ill intent, and often unconsciously. The figure of the “small cheater” is thus positioned in a grey zone of questionable research practice (QRP) between ‘responsible conduct of research’ and FFP, and it was often hard to tell if it was considered acceptable or not (see also Sarauw, forthcoming 2020).

Below is a PowerPoint slide from one of the sessions with a photo of two professional cyclists in a race. The slide is an example of the ways in which the “big cheater” and the “small cheater” were constructed and disseminated to the participants at the integrity course as two essentially different problematized figures of the deviant scientist. As we elaborate below the slide also presents two essentially different causal explanation to their cheating practice.



Figure 1: PowerPoint slide from one of the sessions on course day two.

The slide has the title: “Being Pragmatic”

Accompanying this slide, the teacher of the session presented an analogy between the extensive use of doping in professional cycling and scientists' cheating in academia. The two cyclists on the photo represent two types of cyclists. The "moralist" on the left is doping in order to get an unfair advantage, while the "pragmatist" on the right is doping in order to keep up with the others, who are likewise doping. Firstly, the analogy is striking in that it signals that no clean/straight cyclists/scientists are represented in the lead field of the winning parties. Secondly, an important distinction is made between morally corrupt cyclists/scientists who are considered beyond pedagogical influence and cyclists/scientists who are cheating because of external cultural pressure. Hence it is implicitly argued that the "big cheater" cheats to gain unfair advantages, whereas the "small cheater" cheats in order to keep up with the competition in a depraved culture of other small cheaters.

As we elaborate in the next section, the idea that the "small cheater" cheats due to structural pressures did not imply that the pedagogical attention was directed towards the wider structural conditions of early career researchers. Instead, the "small cheater" was explained and legitimised with reference to 'human fallibility'. In this vein the individual, rather than the structure, was held responsible for the problems with extensive QRP.

4.3. Individual responsibility and 'human fallibility' versus 'pure science'

The problem narrative about the "small cheater" varied to some degree among the experts who taught at the integrity course. For example it was not always clear if it was assumed that the "small cheater" would cheat intentionally or by default. However, a shared narrative about 'human fallibility' as the main cause of "small cheating" ran across many of the sessions.

The PowerPoint slide with the two professional cyclists (section 4.2.) and the narrative about the "small cheater" who cheats to keep up in a competitive environment, where everybody cheats a little, are structured around a storyline about the strong pressure to publish in order to secure one's career and future research funding. Intentionally accepting, for example, a doubtful co-authorship would in this case be considered a precondition to participating in the competitive system. On the course, a system of "gift and debt" authorship, in which a researcher would be given a co-authorship on a scientific publication in exchange for adding the other party on one of his/her/their publications, was openly articulated, and it was generally not made clear whether this was considered acceptable or not.

While the cyclists' slide displays a "small cheater" who would cheat intentionally and knowingly, the course leader represented a problem narrative in which, the scientists were not necessary aware about the omissions he/she/they were committing in regards to the official guidelines on research integrity. The course leader explained:

The thing about main supervisors is, that it is not because they necessarily want to cheat. They are just too busy, and that is when you forget to make the agreements [e.g. about authorship or ownership], because you need to do that, and you are also behind on this, and then you forget the agreements and bam! – Then it is back half a year later. You know, you make a quick decision. Like, you and I we are just gonna do this and make a quick decision but then we forgot that there were three other people and so on and so on. Really, I think the biggest problem is time. [...] And I think it is a huge problem. And that is where I go wrong. I went wrong because I didn't listen carefully; I didn't think twice; I didn't take the time to make sure we were on top of this and that. (Author 1's interview with course leader, May 2017)

In the course leader's problem narrative, the "small cheater" is identified as the supervisors rather than the individual PhD fellows. In the course leader's view, the supervisors do not intent to cheat, but find themselves forgetting to follow the policies because of time pressures and forgetfulness.

Regardless of different ideas about whether the "small cheater" would cheat intentionally or by default, both versions comprise an idea that "the small cheaters" do not arrive at academia wanting to cheat, deceive and lie. In both versions, the "small cheater" is assumed to cheat due to structural pressures from the highly competitive academic environment. In this vein, the teacher and the course leader both normalised the behaviour of the "small cheater" as a part of an inherent 'human fallibility' - understandable, and yet in a grey zone of what is considered acceptable.

Within the positivist scientific paradigm of the medical sciences the idea of 'human fallibility' implies that the "small cheaters" will cheat, and that QRP will occur, not by ill intent, but due to limited human powers of knowledge and consideration, which apply to all human decisions. The following PowerPoint slide from one of the sessions exemplifies a binary problem narrative about 'human fallibility' as opposed to 'pure science' that was repeated in different versions throughout the course:

Why fraudulent research?

Overarching Aims vs. Personal incentives

- Overarching aims of research:
 - Human curiosity, search for truth, creating a better world
 - The individual doesn't matter (the vocation, mission, calling matters)
- Personal ambitions and incentives:
 - Personal recognition, status, vanity, personal career, competition on access to funding and positions, etc.
 - The individual (I, me, myself) means everything

Aktivér Windows
Gå til Indstillinger for at aktivér

Figure 2: PowerPoint slide from one of the course sessions.

In this slide, the “overarching aims of research” are constructed as conflicting with the “personal ambitions and incentives” of the individual. In the description of the overarching aims of research the individual is de-centred in favour of a greater, transcendent good, whereas the description of personal ambitions and incentives centres the individual in favour of personal and material gain. In other words, the slide explains the QRP of the “small cheater” by outlining a binary conflict between ‘ideal’ (e.g. “human curiosity”, “search for truth”, “creating a better world”, “vocation”) and ‘matter’ (e.g. “vanity”, “personal recognition”, “status”, “vanity”, “personal career”, “competition on access to funding”). On the slide, elements of the Christian version of ‘human fallibility’ and its emphasis on human weakness – in terms of resisting the forbidden fruit in the Garden of Eden or pressures from the competitive research environment – become explicit in the construction of the “small cheater” position, whose ‘deviance’ is explained and partially naturalised due to an essentially religious idea about human nature.

The following extract from our observations exemplifies how this part of the ‘hidden curriculum’ was actively embedded in the student-activating pedagogies through case work, facilitated by a teacher:

It is early morning on the second course day and the session begins with a group discussion on the cases the participants had prepared at home as an assignment for the day. Each participant is supposed to present his/her case, while the other group members discuss the case and give

(moral) suggestions. The PhD fellows in the group that I am joining present their cases and discuss them very enthusiastically. All of the cases are impressive, but the PhD fellows can easily relate to each other's cases. The group discusses "Dennis" who had discovered a case of misconduct within his research group, but ended up accepting or at least not informing anyone about his discovery, because he was promised a second authorship on an article to which he did not contribute. The other group members are affected and affronted by Dennis' reaction. One of them says:

"If I had discovered a crime I would not react by insisting that I should also be mentioned as the one of the murderers".

Everyone laughs.

The group proceeded to discuss the different interests that could be at stake in the case, and they are – though affronted – also very eager to explain and justify the dishonesty and sympathy with Dennis who in this case chose not to report on the misconduct of his colleagues. Another participant remarks:

"It's strange that the head of the research group completely ignores Dennis' discovery. Maybe the university actually has an interest in hiding such things, by for example withdrawing an article because it will damage its overall reputation".

The teacher, who has come to the table, breaks in:

"The way I hear your conversation, you keep returning to discussing relationships at the university, and how not to damage our career, rather than discussing the truth."

(Author 1's field notes, Faculty of Medicine, May 2017)

In the extract, the teacher directs the participants' discussion away from their immediate sympathies for Dennis' interests in career advancement and the reputation of the university (corresponding to the 'matter' side of the previous PowerPoint slide) and towards the implications of Dennis' actions for

“truth” (corresponding to the ‘ideal’ side of the PowerPoint slide). Rather than for example exploring the participants’ motives for identifying with Dennis, including their discussion of structural obstacles, and their suggestion that the university system itself may in fact not be interested in unveiling misconduct, the teacher maintains the binary construction of individual human fallibility versus truth. In the following section we explore how this binary in which the individual “small cheater” was played out against “truth” contributed to the construction of the PhD fellows as agents of future change, while again outlining it as a question of individual decision.

4.4. The ‘scientist with integrity’ and the reflexive imperative

In the previous sections we identified the ways in which the “small cheater” narrative was constructed, presented and normalised to the participants on the course as the prevalent, yet undesired, or ‘deviant’ position. In doing so, we showed how the participants were incentivised to identify with the “small cheater” position, who due to his/her human fallibility was caught in ‘matter’ and material dilemmas of “vanity”, “personal recognition”, “status”, “career”, “competition on access to funding” (cf. the PowerPoint slide from the teaching, section 4.3.), which was also used to explain the prevalence of QRP. In this section we are concerned with the ways in which this description of the ‘deviant’ or undesired position implicitly contributed to building a notion of the ‘integrative scientist’, i.e. the desired subject position and outcome of the course.

In the examples that we have included on the previous pages, the image of the ‘researcher with integrity’ remains unspoken. This is for example the case with the ‘scale of cheating’, which is a purely negative scale, comprising the three undesired positions: fraud (FFP), misconduct and questionable research practice (QRP) whereas the positive or desired position of responsible conduct of research is never explicitly constituted (as other than ‘non-FFP’, ‘non-misconduct’ or ‘non-QRP’).

With reference to the Foucaultian notion of ‘deviance-making’ (section 2.1.) we will, however, argue that an ideal subject position emerged in unspoken normative opposition to the problematised figure of the “small cheater.” In the case of Dennis (section 4.3.), the protagonist is caught in a dilemma between reporting the misconduct he has discovered on the one hand and the promise of second authorship on a paper to which he did not contribute, on the other. Dennis is not the one who has committed the misconduct. He is, in other words, not in the position of the “big cheater” but finds himself in a ‘sweet spot’ on the verge of QRP and entering the position of the

“small cheater”. When the teacher intervenes and directs the PhD fellows’ discussion away from implications for Dennis’ career and towards his obligation to ‘truth’, it happens with an implicit normative impetus that Dennis is supposed to resist the temptation of gaining a second authorship and report the misconduct of the other in order to prevent fraudulent research being published. Yet, without explicating, the desired subject position of the ‘researcher with integrity’ emerges as the researcher who is able to ignore structural pressures and set aside personal ambitions (‘matter’) in pursuit of ‘truth’ (‘ideal’).

Paradoxically, however, the emphasis in the “small cheater” narrative on our inherent ‘human fallibility’, which applies to all humans and thereby all scientist, obstructs a straight forward realisation of the subject position of the ‘researcher with integrity’. Enhanced by the student-engaging course pedagogy, the feasible subject position therefore becomes that of the reflexive researcher, who is aware of his/her own human fallibility and obligation to continuous reflection, self-surveillance and self-correction in order to navigate within the competitive structural pressures from their research environments.

In the following quote, the course leader explains this ‘reflexive imperative’ and the learning outcome that she believes that the PhD fellows will bring with them after the course:

I think we can change something. I really think we can. I mean, I believe so because I think the awareness makes a difference. What I want is for them to dare to ask the questions back home. It is not like they have to go back and say, “Now we need to take care of this and that”. I know it does not work like that, but they can for example go on and say “well aren’t we suppose to contact TTO?” and “aren’t we supposed to talk about authorship beforehand?” That is what I hope they take with them. That they know that there are places they can look up if they are unsure about what they need to be on top of it. But most of all, that they feel a sense of security asking these questions in their own research environments.

(Author 1’s interview with course leader, May 2017)

According to the course leader, the course aims to enable the PhD fellows to identify relevant guidelines in relation to the research in which they take part, and empower them to “dare to ask the questions” in their own research environment. In this vein, the PhD fellows are also constructed as ambassadors and agents of change in the wider research community, in that they are expected to go back to their hinterlands and enlighten their senior peers. Whereas the international and national

guidelines, such as ALLEA (2017) and DCCRI (2014) emphasise that it is the responsibility of the institutions to improve the intuitional culture, the course leader placed the responsibility on the individual PhD fellows. In the course leader's view the best possible solution to the "small cheater" problem would be that individual PhD fellows subjected themselves to continuous self-surveillance and self-correction to overcome the structural pressures from a competitive research environment, while at the same time confronting their senior colleagues with their assumed inability to follow the rules.

5. Conclusion

We began our analysis by arguing that the increased concern with research integrity training for PhD fellows may be understood within a shift in the governmental rationalities of academia from little or no governmental interference in scientific conduct, to government-initiated regulations to prevent and penalise misconduct, and, currently, promoting research integrity through codes, guidelines and training with the aim of creating a higher degree of self-regulation within the field. We also argued that these shifts can be understood as changing ways of constructing and dealing with the problematised figure of the 'deviant scientist', and that the emergence of QRP as an object of attention and (pedagogical) intervention plays a role in this development.

Our analysis of the integrity course shows how this shift goes hand in hand with an altered problematisation of the 'deviant' scientist. When QRP is defined as the main problem, the object of intervention is no longer the "big cheater" like Macchiarini and Penkowa, who symbolise cases of intentional FFP, but the everyday "small cheater" who, knowingly or unknowingly, does not always stick to the rules. Whereas the "big cheater" position is considered beyond pedagogic mobilisation, the "small cheater" is on the contrary identified as an inherent quality in every scientist, while his/her drift towards personal recognition, status, career and access to funding is at the same time normalised as the prevalent position.

The integrity course offers a 'hidden curriculum' to solve the problem of the "small cheater" through a reflexive imperative. This places a double responsibility on the shoulders of the PhD fellows. First, they are expected to monitor and control their own inherent "small cheater" inclinations to comply with the structural pressures of the competitive research environment. Second, they are also expected to promote this continuous reflexivity and self-correction in their hinterlands,

which may very well also include their supervisors and other seniors. Here our analysis shows how the “small cheater” narrative contributes to circumscribing the focus on the responsibility of the institutions and senior staff in policies such as ALLEA (2017) and DCCRI (2014). Instead of focussing on the correlation between “small cheating” and structural pressures under which PhD fellows work, the course displayed ‘human fallibility’ as the main hindrance for acting with integrity.

By pointing to an inherent ‘human fallibility’ as the main source of QRP, the course may contribute to maintaining a static view on the possibilities of creating a better future. Following Foucault we must, however, also ask to what extent this individualisation is the result of a present shift in the policy rationales away from defining, preventing and penalizing research misconduct through political intervention and towards securing and supporting research integrity by an increased responsabilisation of the individual. If this is the case, individual responsibility and self-correction, rather than changing the structure and extreme working conditions of early career researchers, may be seen as a governmentality rationale.

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