

CHAPTER 8

The Janus Model: Why Women Experience Disadvantages

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Abstract: Why is there an entrenched gender imbalance in the upper echelons of academia, while there is growing gender equality at the lower levels? This chapter investigates the extent to which there may be structural underpinnings to the gender imbalance and presents a model for identifying these structures called the “Janus model” (from the Roman god Janus with two faces). Janus has a friendly face (gender differentiation) and a strict face (gender stratification). The chapter opens with a review of research on gender differentiation and careers, and the background for the Janus model. The starting point is the strong gender differentiation that characterizes academia, especially at the lower levels, while the drop in women and continued numerical male dominance mark the top levels. The model describes how differentiation contributes to stratification at higher levels such that women are in the minority especially at the top. What is at first difference, gradually becomes rank and status. The Janus model shows how accumulation of disadvantage and the Boygen model (Chapter 7) combine with structural conditions. The final part of the chapter looks at criticism of the Janus model, empirical nuance and theoretical development, and links to other new research.

Keywords: gender imbalance, structural models, academia

Introduction

Why does it take such a long time to create gender balance at the top in academia? Previous chapters have shown how academia is characterized by both an increased orientation towards gender equality and persistent gender discrimination, revealing a gender gap in experiences of the work

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environment and culture. The results from our study of the Faculty of Mathematics and Natural Sciences, University of Oslo, support international research on accumulated disadvantages for women in academia, and provide a foundation for the social-psychological model “Bøygen” (often called the Boyg in English) presented in Chapter 7. According to this model, external resistance leads to lower self-confidence, which results in some researchers “choosing” to withdraw from competition, even though they are not “pushed out”. The resistance and disadvantages they encounter create inner doubt. However, the model says little about what causes these obstacles and disadvantages. Do the structures within academia, that is, the university’s traditional and fundamental ways of functioning as an institution and organization (see e.g., Acker, 1990), have anything to do with it? If that is the case, what sorts of structures are involved? Why do we see persistent gender-imbalance at the top even when lower levels become more gender-balanced?

In this chapter, we discuss these structural modes of operation, and present a model to identify them called “the Janus model”. Our point of departure is that gender-imbalance in academia is both horizontal and vertical. The horizontal dimension includes the division into male-dominated and female-dominated disciplines, whereas the vertical includes gender-imbalance in top-level positions. The first refers to a situation in which the genders are different but equal, the second to a situation in which the genders have different ranks or statuses. These are two quite different ways in which gender has significance in academia, but they are nevertheless connected. The model has its name from Janus, the Roman god with two faces. In the Janus model, the university has two modes of operation or “faces” in relation to gender. One is a friendly or smiling face in which gender is visible, but only as a difference, a differentiation. The genders are distinct from each other but equal in status and value. They are not ranked. The other is a stern face in which gender is ranked, but this hierarchical ranking appears to be gender-neutral. It seems to have little to do with gender.

In the first part of the chapter, we discuss research on gender differentiation and careers, and describe the model’s background. Our point of departure is the strong gender differentiation that characterizes

academia, especially on the lower levels. In the second part, the Janus model is presented more thoroughly. The model describes how differentiation contributes to stratification (ranking) on the higher levels, resulting in women being in the minority, especially at the top. What begins as a horizontal difference becomes a vertical gap in rank and status. The third part of the chapter addresses criticism of the Janus model, empirical nuance and theoretical development, and relates this to other recent research.

The University as a Gender Differentiating System

Gender-based work distribution and gender role structures are key topics in research on gender and gender equality (see e.g., Acker, 1990; H. Holter, 1973a; Ø. Holter et al., 2009). Here, work distribution means the division of tasks between the genders in society, broadly speaking, including care responsibility and unpaid work in the home.

Ellingsæter and Solheim (2003) claim that the significance of work distribution has been underestimated. Working life is based on “hidden assumptions about gender differences”, and feminist research lacks theory on how gender may turn into power relations, and takes it too much for granted (Ellingsæter & Solheim, 2003, pp. 57, 34, translated from the Norwegian). In our view, this criticism is still relevant. Women are still overrepresented in occupations and jobs with lower wages and status than men. Furthermore, change is happening so slowly here that one may get the impression that this is an almost static pattern.

In academia, major changes have taken place in terms of student distribution within many disciplines, particularly from 1980–2005, as the proportion of female students increased.¹ However, a gender division is still highly evident. Many students enter gendered degree programmes. In autumn 2019, the MN faculty had 19 natural sciences degree programmes with more than ten full-time students (converted according to completed credits). Of these, only five, or approximately 26 per cent, were gender-balanced (within 40/60), and four had more than 80 per cent of one gender. A study of the student distribution in all the 115 master’s programmes

at the University of Oslo in 2012 showed more or less the same pattern: only 22 per cent, or one in five degree programmes, were gender-balanced (within 40/60). The vast majority, four in five degree programmes, were not gender-balanced, often down to 80/20 or even 90/10. There is still a considerable share of almost single-gendered programmes, both on the male and the female side (Thun & Holter, 2013, p. 165).

This could be interpreted as a result of the students' own choices, but also as a result of the way in which the degree programmes are designed and facilitated.² Regardless of what the background may be, it is a fact that the student population becomes highly gender-divided. Awareness of the consequences of this seems to be small. Career counselling for students and young researchers has only marginally addressed the gender-related implications of different education and career choices (*Akademiet for yngre forskere*, 2016; Thun & Holter, 2013).

The fact that the university is a gender differentiating system means that gender matters. Different genders end up pursuing different educational paths. Academia is characterized by a gendered work distribution that becomes particularly visible as students begin to choose specializations and areas of expertise. This is a *horizontal* gender division. It is not a *vertical* division where one gender is placed above the other(s) in rank or status. By differentiation, we mean only that there is a distinction between the genders. What characterizes the university is that young women and men embark on different academic directions, without that in itself having anything to do with ranking (vertical dimension). In principle, a master's degree holds the same status regardless of discipline.

Young men thus more often enter disciplines or subject areas with numerical male dominance, whereas young women enter disciplines or areas with numerical female dominance. Gender differentiation *increases* from the bachelor to the master level – at least it becomes more visible. On this level, the programme options are more specialized. Historically speaking, what used to be gender differences *between* disciplines has partly changed into gender differences *within* individual areas and specializations within the disciplines. For example, medicine was for a long time primarily reserved for men. This has changed, yet there is considerable gender division within the discipline.

Stratification and Meritocracy

The university is also a stratifying system. Some move up, others fall out. This is the institution's mode of operation – selection is part of the job. However, the selection is supposed to be meritocratic, based on each individual's performance and achievements, not on ascribed or attributed characteristics. The university should counteract – or at least not reinforce – social inequality linked to gender or other traits of a person. This provides the best possible chance to develop talents and respond to social responsibility. In other words, there is nothing wrong with “stratification” in itself. However, universities have an explanatory problem when stratification is clearly connected to social inequalities or grounds for discrimination,³ such as gender or ethnicity.

Gender stratification means that the genders have different outcomes in terms of status, prestige, power, economy, etc. An example may be a high proportion of women on the lower levels of a discipline, while men on the top level still dominate the same discipline. The term describes the inequality but says nothing about motive or the driving forces behind it.

The Janus Model



Image 8.1. The Roman god Janus. Photo: Wikimedia Commons.

In order to understand how gender differentiation and gender stratification are connected in academia, we have created what we call the Janus model. It has its name from the Roman god Janus, the god with two faces. Janus was known for combining two different forms or having two

different modes of operation – he could display a friendly face and a stern face, or a young and an old face. We use Janus as a metaphor, a sort of analogy, for discussing a two-sided social mechanism. Our point of departure is that academia has two “faces”, and that it treats gender differently based on two opposed logics. On the one hand, it differentiates the genders. On the other, it ranks the genders.⁴ Whereas gender differentiation is open and legitimate (Janus’ friendly face), gender stratification is usually hidden – it behaves like a gender-neutral meritocratic sorting (stern face).

The two faces correspond to the two modes of operation in the model: a “nice” differentiating mode, and a “stern” stratifying mode. The model shows how the two recreate gender imbalance at the top. It also shows how the centre of gravity changes towards the top of the career ladder. The “friendly” face is most visible on the lower levels. The “stern” face becomes more visible on higher levels.

Figure 8.1 (below) is a rough outline of the Janus model. Here, the ideal career path from student to professor is marked by a grey, broken line diagonally from bottom left to top right. Some central empirical patterns

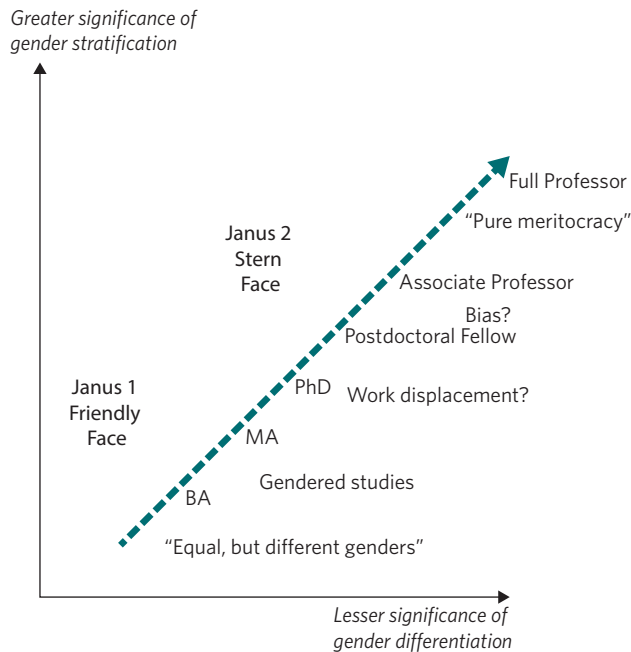


Figure 8.1. The Janus model: the career path from student to professor, based on gender differentiation and gender stratification patterns.

have been included.⁵ The outline demonstrates how differentiation – the friendly or smiling face – is most visible on the student and lower levels of the career ladder. Stratification – the stern face – becomes more important towards the top.

Figure 8.1 demonstrates the typical career path during which students encounter an ideology of “equal, yet different genders”, which is in line with highly gender-differentiated studies. Patterns related to ranking and stratification, not particularly visible at first, gain momentum upwards on the career ladder. We see tendencies towards “work displacement”, where women are given less meriting tasks than men, and encounter “bias” or gender stereotypes (in line with other studies, e.g., Vabø et al., 2012).⁶ At the top reigns an ideology of “pure meritocracy”, in which gender is officially irrelevant, as found in our interviews. On this level, we often see “a rigid faith in meritocracy” (see Thun, 2018, translated from the Norwegian, and Chapter 1).

The Janus model builds on the results from the FRONT study, especially the two surveys carried out at the Faculty of Mathematics and Natural Sciences. These findings present evidence of a gender gap in experiences (as documented in Chapter 5) – yet the obstacles change shape along the career path. For instance, young women experience more social devaluation, whereas older women experience more (or continued) professional devaluation. The model emphasizes that what is first “different” in terms of choice of education and career path, can become gradually more “ranked” or stratified. Gender matters in ways that result in renewed inequality, for example in the absence of women at the top. In this way, the Janus model helps explain *why* the inequalities still exist despite the university’s attempt to create gender equality.

How Does the Janus Model Work?

The Janus model demonstrates patterns, and how they may be connected in general, but it does not fully explain what happens on the individual level. However, an imagined example may illustrate the connection between the model’s two mechanisms.

Let us imagine student A, who has chosen a “feminine” career path, and student B, who has chosen a “masculine” path. These might be within the same discipline, such as IT. For example, A may have selected “user design”, whereas B has chosen “programming”. Both students are awarded top marks for their master’s degrees, and both start on a PhD. Later in their career path, the two meet, competing for a postdoctoral position. This time, only formal qualifications count. Gender, which played a role when A and B chose or were encouraged in different directions (gender differentiation), is now no longer present as an explicit part of the basis for evaluation. A and B are evaluated “completely objectively” without regard to gender. As it turns out, A must yield to B, for example because B’s academic profile is assessed as “more crucial to the discipline”, or simply because there is funding for a postdoctoral position in B’s “crucial” area, but not in A’s. A may have to “revise” her/his competence (make it relevant to this “central” area), and thus easily falls out of the evaluation process.

A fundamental idea in the model is that open discrimination based on gender may be avoided through a *split* or *division* or through *deferment*. One unit – for example, a committee or a department – does one thing, while another does something else. Imagine, for instance, that an academic institution manages to reproduce numerical male dominance on the top level almost unchanged over many years. But it does so by one unit pointing in one direction while another points in a different direction. Formal regulations are one thing; the informal culture is another. For instance, an expert committee may say one thing, while the nomination committee says another. There does not have to be much of a split or divide for such a “deferment mechanism” to work. All it takes is a combination of factors. None of the links in the chain breaks the rules, perhaps, when considered individually. But the chain maintains the accumulated gender gap at the top through interaction with gender differentiation further down in the system.

Well, there are exceptions [to the formal regulations]. We just need to get things done. The last researcher we recruited came in more randomly. He is the one sitting down the corridor there.

(Professor, male)

Sometimes, time pressure and practical reasons make it easier to choose the “expected” gender. The informal level undermines the formal level in the organization. At other times, two equally “official” units or committees contradict each other.

Gender Difference as Part of a Structure

In the above examples, gender works *indirectly* through an apparently gender-neutral assessment. It may have to do with more central and less central research areas, or formal and informal assessments. Gender is not mentioned directly but is indirectly part of the picture.

Based on this model, gender difference becomes embedded in the system’s mode of operation, which has a negative effect in the long run, especially for women. Thus, the model slightly resembles the Bøygen model, and the hypothesis of accumulated disadvantages for women (Chapter 7), while at the same time enabling the interpretation of *different types* of disadvantages and obstacles – not only that they pile up over time. The central idea is that discrimination based on gender *changes its character* on its way up the career ladder.

The Janus model describes *tendencies* in general (seen from a bird’s-eye view), not concrete or detailed connections, which may deviate from these tendencies. We will return to this later. Nevertheless, we are dealing with general tendencies and patterns that are well documented, for example, in the material from the FRONT project.

In principle, there is nothing “wrong” with Janus’ two faces – taken individually. Gender differentiation is legitimate in academia, as in the rest of working life. As already mentioned, stratification is legitimate, too, as long as it is neutral, objective, and not skewed. The problem arises when the presumably neutral meritocratic selection in reality involves gender bias, as our research indicates. Each of the two main tendencies – differentiation and stratification – may thus appear legitimate and meritocratic in themselves, if they are considered individually. It is the connection between the two that becomes problematic, and this is usually hidden and difficult to see in context.

It should be mentioned that a “kind” differentiating mode of operation (friendly face) does not necessarily involve less strain on the individual level.⁷ The model demonstrates skewed selection all the way, although the primary mode changes. This causes strain or disadvantages on the way towards the top of the career ladder. The “friendly” Janus face only means that the institution itself does not rank genders (at least not directly), although they are differentiated. However, this does not necessarily imply that ranking and gender discrimination are absent in the working environment and culture.

Discussion: How Appropriate is the Janus Model?

The Janus model describes two structures in academia – differentiation and stratification – that together contribute to maintaining gender-imbalance. The model demonstrates how these structures can make it more challenging to create change with regard to academic culture, prestige and gender-balance, particularly at the top.

The model is not based on the idea that women’s problems – slightly simplified – can be explained only as a result of male resistance. The point is rather that this is how the organization works, “This is how we do things here”. There does not have to be a very strong degree of male dominance or active discrimination within the organization. On the contrary, the men within the organization often emphasize the things they do to promote women and gender equality – as they do in our material. However, assessments indirectly related to gender affect academic institutions and cultures. The road from “different” to “inferior” can be short.

The Janus model thereby helps explain why the FRONT material shows a widespread *desire* for gender equality, also among men, in combination with a strong *belief* in the genders as fundamentally different – and an increasing gender gap in experiences during the career path, in which women encounter more problems than men (Chapter 5). In *practice*, the organization fails to live up to the desire for gender equality, not just because of resistance, but because the structures, the two “faces”, counteract this – and recreate belief in gender differences.

The Model's Four Hypotheses

How well are the model's hypotheses empirically substantiated? Let us examine the model's four central hypotheses:

1. The first hypothesis is that structural factors can largely explain the persistent imbalance alongside explanations related to personal interaction and individual actors. We do not know precisely what "largely" means here. The model does not claim that structures mean everything and actors nothing. We do not take a stand, we are just saying that both are operative.
2. The other hypothesis is the distinction between horizontal and vertical gender difference, gender differentiation and gender stratification, which is well founded in research. These are partly overlapping patterns, but also distinct tendencies with different modes of operation.⁸ The model assumes that both gender differentiation and gender stratification create a tendency that "pushes women out" of the top level in the natural sciences, but that they operate in different ways. It is important to distinguish between them to better understand how today's formally gender-equal institutions still sustain an imbalance, even *without* a highly extensive degree of active discrimination on the actor's level.
3. A third hypothesis is that horizontal gender segregation (gender differentiation) changes in the direction of a vertical division (gender stratification) towards the top of the career ladder. The model assumes that both tendencies are operative on all levels, but with changing emphasis. The "stern" face becomes more important on the higher levels, whereas the "friendly" face becomes more ambiguous. The significance of differentiation is reduced, whereas the significance of stratification increases.

What do we know about this change? Here, research is less unequivocal, but we nevertheless have substantial support both in the FRONT material and other studies. For instance, the major British Asset survey on the natural sciences found that stratification increased on higher position levels (Aldercotte et al., 2017).

Similarly, a study of gender differences in performance in career development among young researchers over ten years (van den Besselaar & Sandström, 2016) shows that minor differences on the lower levels developed into more considerable differences at the middle-level later in the career. The researchers emphasize that skewed selection and drop-out among women towards the top are not only about “self-selection” or individual choices, but also largely about “social selection”. The study supports the Janus model’s hypothesis that a transition occurs on the career ladder from differentiation to stratification.

However, the sequence does not *have* to follow this pattern of differentiation first and stratification second. One of the female researchers in the FRONT study sums up her experience thus: “I have experienced academic devaluation all the way. Unwanted sexual attention was mostly when I was younger”. Several of the women in the interviews report similar experiences. Attention based on gender difference is evident in FRONT’s student material. But this may have to do with academic devaluation and other types of gender stratification from the start, not just at the top, even though this stratification changes its shape – it is more “visibly gendered” in the beginning and more “hidden gendered” towards the top.

4. A fourth hypothesis is that the combination of the two structures, and the way in which gender de facto impacts meriting and prestige towards the top of the system, are *hidden*. This can happen directly or indirectly. The model assumes that this occurs primarily indirectly in that the two structures do not mix. Gender as a difference is treated separately. The same is the case with ranking. The ideal becomes, so to speak, a “unisex” work organization, while at the same time practice shows otherwise.

That gender stratification and gender discrimination are largely indirect or hidden is confirmed both in the FRONT material and other research (see e.g., Brandser & Sümer, 2017; Husu, 2005). In the FRONT material, we see a major gender gap in *practice*, that is in experiences, where women come out worse than men – even though almost nobody “wants”

this. Among many of the women and the younger researchers, the tone is more critical when it comes to conditions at the top. “They’re not aware of it, but they do it,” is a summary of this criticism, which is particularly directed at men at the top. They recreate a skewed ranking based on semi-conscious notions of gender differences.

Theory of Gender and Power

As described, the Janus model is created based on empirical findings. But the model also has a theoretical background. That gender-related discrimination and gender oppression in general have taken more indirect, hidden forms is a well-known view within research on gender and gender equality (see e.g., Acker, 1990; H. Holter, 1976, 1984; Walby, 1990). In this sense, the Janus model is also founded on a relatively solid theoretical basis. But do we have grounds for saying that the tendency to hide gender discrimination is linked specifically to the connection between differentiation and stratification? We do not know for sure. What we do know is that gender inequality changes character. It has changed shape over time (Danielsen et al., 2013; Hagemann & Åmark, 1999). These changes occur in academia and in society in general. The model can contribute to a better understanding of this pattern.

Based on critical theory of power and social stratification (social inequality and dimensions of discrimination), a stratifying and discriminatory social mechanism⁹ will, as far as possible, attempt to reduce costs for the powerful actors. It will give those in power the opportunity to “legitimize themselves” and, to the greatest possible extent, make their power appear as a common good, or at least the best possible option under prevailing circumstances. It will seek to distribute the costs of power downwards within the system, whereas the rewards are concentrated towards the top (Connell, 1995; Ø. Holter, 1997; Messerschmidt, 2015; Poulantzas, 2008). It will attempt to hide what is happening and operate through a divide and conquer mechanism – possibly the oldest of all known domination techniques. It will – based on feminist research and theory – be characterized by an “organizational defence mechanism” (H. Holter, 1973b, translated from the Norwegian) and a “neutralized

male norm” (Hirdman, 1990). Structural domination will operate in interaction with social, cultural and symbolic domination (Ellingsæter & Solheim, 2003; Solheim, 2001).

According to critical theory, oppression becomes gradually more subtle and hidden in modern society. Oppression is transformed into a “compromise mechanism” (Poulantzas, 2008), at the same time as authoritarian forces can expand their scope through “exception mechanisms” (Agamben, 2005), enemy images and other factors. Power becomes “normalized” and “hegemonic”. Traditional gender roles and authoritarian attitudes and mechanisms in society are essential parts of this picture (Stenner, 2005).

The gender system is central in this critical perspective on power in society (Acker, 1990; Connell, 1995; Hirdman, 1990). A common denominator in this research is that power in some ways becomes milder, in other words, a friendlier face over time, historically speaking – at the same time as it becomes more internalized, “It is your own fault”. But such “milder” forms of power are not the entire story. For instance, gender power in Norway is relatively moderate in an international perspective, but rape and violence against women are still part of the pattern. Mild and subtle use of power can go hand in hand with marking boundaries and setting examples with the use of more direct methods (Ø. Holter, 2013). In the FRONT material, we see a partly “mild”, general type of devaluation of care responsibilities, which quickly becomes a loss for one’s career. But there is also a surprisingly strong tendency that women, much more often than men, experience problems after parental leave (see Chapter 5, and also Thun, 2018, 2019a, 2019b). Both “mild” and “stronger” tendencies emerge.

The Janus model is founded on the distinction between stratification and differentiation in research on gender roles and gendered division of labour. It is not alone in describing gender discrimination as an indirect process. For example, in her model of the gender system, Hirdman (1990) distinguishes between two main principles: the creation of difference and ranking in a neutral form. This resembles the two dimensions in the Janus model, even though the starting point is somewhat different.

Such multi-dimensional models have also been developed within research on gender in academia. Research reveals several reasons or factors contributing to imbalance and obstacles for women (Chapter 5), making it natural to create models that clarify this further. “The Medusa effect” (Brandser & Sümer, 2017) is an example of model building on this basis (see Chapter 7).

The Janus model takes this a step further through a more general division between differentiation and stratification. It is a structural model. When the two structures are connected, problems arise. This will tend to recreate the Matthew effect (men are credited), the Matilda effect (women are bypassed), and the Medusa effect (combining the two) as empirical patterns in academic communities and cultures, and reestablish a neutralized male norm.

Models that can be tied to the Janus model have also appeared in other recent research. In a study of academic recruitment at three Norwegian universities, Orupabo and Mangset (2021) describe how recruitment is characterized by two sets of logic, first an “inclusive logic” and secondly an “exclusive logic”. In the inclusion phase, gender equality and diversity are taken into account, but such criteria are taken out of consideration in the exclusion phase in favour of presumably objective standards of excellence. This model was developed independently of the Janus model but describes similar patterns. We see some of the friendly, inclusive Janus face, and then some of the stern, exclusive face.

An obvious criticism of such models, including the Janus model, is that the division into some “important” tendencies or factors is too simplistic and thus misleading. Who knows whether these are the most important ones? Should we not instead look at how they are connected in real life? Most people know that the link between “different” and “inferior” is close when it comes to gender. Could this be a better point of departure?

That gender power and gender difference are often linked is correct, empirically speaking, but this does not diminish the importance of the analytical distinction between them. Gender stratification and gender differentiation are two different things. Low atmospheric pressure and rain are also often connected, empirically speaking, but we do not drop the analytical distinction because of this.

Critical gender theory provides the opportunity to consider power and difference in connection with each other. The theory is founded on what is distinctive about the relationship between the genders, not just on what applies to power relations in general. One essential characteristic is that gender relations are often personal and intimate relations, requiring a certain minimum of mutual benefit and gain in order to work. Gender relations are characterized by reciprocity, although they are also often characterized by power and exploitation. Class relations and ethnic relations do not require this same “closeness”. They do not require that the two parties, the oppressor and the oppressed (based on theories of power), live in the same household or share the same bed. The relationship is different.¹⁰

Model Development and Empirical Nuance

In its first, simple form, the Janus model, as described in Figure 8.1, is helpful as a working model, but it clearly also has limitations. The model was presented and discussed among researchers at a number of seminars and workshops at the Faculty of Mathematics and Natural Sciences in order to elicit views and debate. Many were of the opinion that the model was interesting, while some argued that it was not sufficiently clear.

We therefore saw the need for further empirical development, and some attempts towards a more empirically precise model were created and presented. None of them were perfect. However, they demonstrate how the model may be used as a working model and developed further.

Figure 8.2 is an example of the model at one stage of its further development.

Here, we no longer accept a “simple” diagonal line from differentiation to stratification but try to nuance it based on our knowledge of the empirical pattern. The broken line (blue) represents a correction of the diagonal. The figure is not a full solution but an example of how the Janus model may be improved based on new empirical data.

The point of departure is both our empirical data and other recent research. As already mentioned, we see increasing gender differentiation on the lower levels of the career ladder, but the direction becomes less

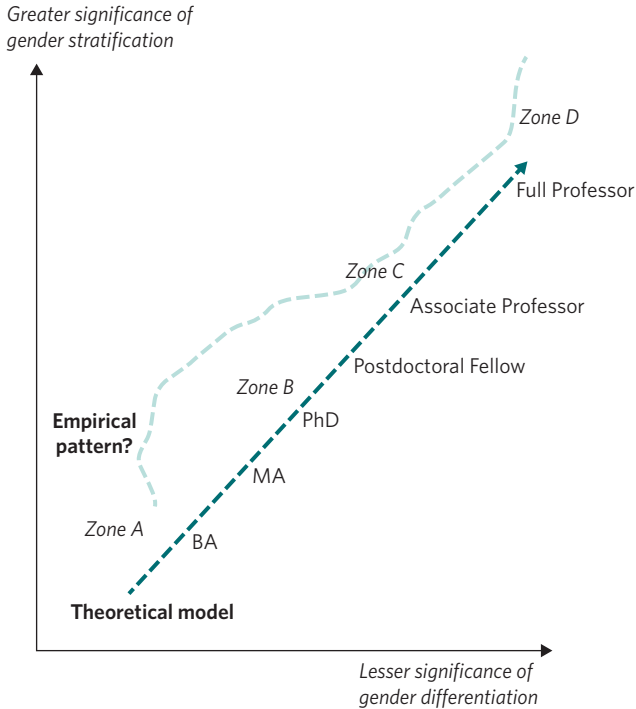


Figure 8.2. The Janus model with empirical modification. The model shows the career path from student to professor based on gender differentiation and gender stratification.

clear higher up. The main point is that stratification builds upon differentiation, but differentiation probably does not diminish once it has been established. The upper half of the broken line is perhaps, empirically speaking, more vertical – the degree of differentiation is more or less the same, although the explicit *importance* of the differentiation decreases.

It is also uncertain whether the uppermost part is more gender-stratifying than the levels below. However, research presents a picture of strongly gendered-skewed selection at the top, related to prestige and funding of excellence and outstanding research (Henningsen & Liestøl, 2013; Sandström et al., 2010). For instance, women accounted for only 26 per cent of the recipients of awards for the best research and best innovation at the University of Oslo from 2010 to 2020. Some of the prestigious awards within the natural sciences are even more male-dominated. An international study of prestigious awards indicated that women only

received eight per cent of the prizes during the period between 2001 and 2020, although this proportion increased towards the end of the period (Meho, 2021). Continued male dominance at the top comes into play as a factor both downwards on the career ladder and across the disciplines.

It may also be the case that gender stratification is more prominent on the lower levels (although it is often hidden behind differentiation) than presumed in the first version of the model. This has been corrected to some extent in the second, Figure 8.2, as an example of how the model may be further developed in line with empirical mapping.

It is also possible to imagine more “ideal” versions of the model, where Janus has largely abdicated, and the model no longer has the same strong effects. A simple version was presented at the seminars (Figure 8.3, below).

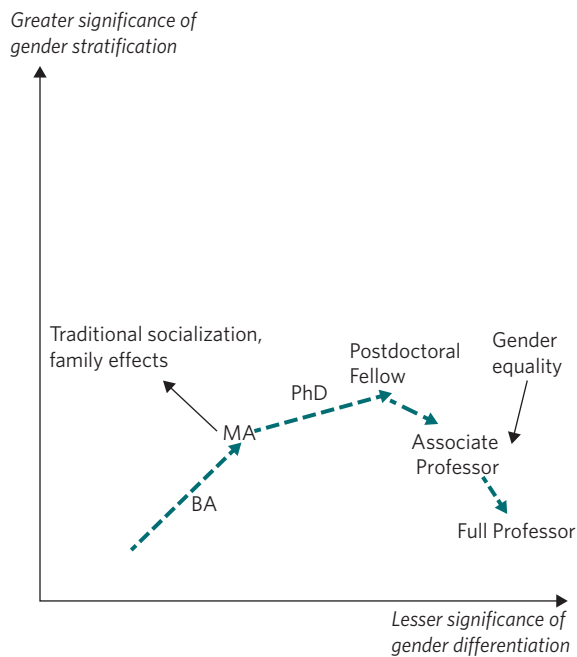


Figure 8.3. The Janus model as an “ideal” version. The model shows the career path from student to professor based on gender differentiation and gender stratification.

This version of the model is an outline of possible future development. On the one hand, we presume that socialization, family and gender roles still pull the curve upwards (to the left in the figure). On the other hand,

increased demands for gender equality and gender balance at the university reduce gender stratification (to the right). These are obviously just presumptions, and the point of presenting the outline here is to demonstrate how the model may be developed further. It is open to different possibilities, not fixed to a particular view or theory.

The action research in the FRONT project has demonstrated that these types of models are “useful to think with”, particularly when they are empirically open and flexible and do not require researchers to take a stance in advance. They can explore on their own. Are the obstacles that women encounter a mix of horizontal and vertical discrimination? Is it true, or not, that the main emphasis shifts over the course of one’s life and one’s career path from horizontal differentiation to more vertical and apparently gender-neutral ranking? Each and every one can examine the conditions within their own research community and their own academic culture. Once you have two faces, you may just as well have many. The Janus model, both in its first, simple version, and later with a possible empirical modification, has functioned as an eye-opener and created curiosity in the FRONT project’s seminars and other initiatives.

Points for Improvement

The material from the FRONT project, not just from the action research, but also from the questionnaires and interviews, suggests some crucial points of improvement in the Janus model, although we have not had the opportunity to explore these in detail. Among other things, it concerns “tracks” and “connections”. *Tracks* here means *various* combinations of differentiation and stratification, in different disciplines and subject areas, and on different levels.

The model starts with the general assumption of an even diagonal from student to professor upwards on the career path. In practice, experiences are more varied. The model displays a macro pattern, that is, a general tendency on the institutional level, but conditions are somewhat different on the intermediate or meso level (the organization), and on the micro level (the small group, the individual). Although the sum total, a

low proportion of women at the top, is the same for many disciplines, the social mechanisms leading up to this are slightly different. The first and simple version of the Janus model *presumes* a shift from differentiation to stratification as a main principle, without clearly specifying this shift or connection. Here we find variation and divergent patterns. In reality, there are many different tracks upward in academia. These are important challenges for further research.

Delay is one of several mechanisms in the Janus model. As mentioned earlier, this can mean that one committee does things in one way, while the next one does them in another way. *Division* (difference on the one hand, ranking on the other) may occur in other ways, too, however. This division or split can mean that one specific perspective is used in one case while another is used in a different case. Each of the two points in its own direction. Yet they are combined. How can this happen? The core of the Janus model is that the relationship is *indirect*. Gender-neutral assessments or scientific terms are nevertheless connected to gender difference.

Committee A is perhaps gender-neutral, but it is succeeded by committee B, which more informally takes gender into consideration in its recommendation. Students A and B are perhaps evaluated gender-neutrally, yet the assessment is indirectly based on gender, because the evaluation of central and peripheral disciplinary fields is connected to gender. The FRONT material indicates that indirect mechanisms such as these are essential. For instance, the material shows that young men more often than young women think they have “talent” for research (Chapter 5). Researchers promoting their own talent are more frequently cited (Lerchenmueller et al., 2019).

This is not – officially speaking – about gender discrimination. But this is how it often works, in objective terms. Women are worse off. In the next chapter, we discuss this in more detail, addressing discourse and ideology, and how structures affect culture.

The core of the Janus model is the two faces of academia – the division between a friendly face centred on difference, and a stern face centred on power. The division or split often occurs over time, through the delay described above, as the significance of (open) gender differentiation

decreases in relation to the significance of (more hidden) gender stratification upwards on the career ladder.

However, both tendencies are also often present here and now in the FRONT material, when “different” drifts into “inferior” in regard to women. This usually happens when gender becomes subject to a “symbolic translation” (Solheim, 2001). It is not *directly* stated that an assessment is influenced by gender, but standards are used (e.g., if an article is presented as “innovative”, the researcher has “talent”, i.e., criteria that are clearly influenced by gender). Discrimination thereby takes place mainly *indirectly*, demonstrated by Fürst (1988) already in 1988, and later confirmed in a number of other studies (see e.g., Ahlqvist et al., 2012).

What is referred to as *bias* (more or less conscious prejudice) in international research is an essential part of the Janus model, further described in Chapter 9.

Based on the FRONT material, gender distribution often corresponds to how “soft” or “hard” the subject areas are assessed. Gender differentiation is linked to the academic prestige hierarchy in the sector (see Chapter 2). It also includes to what extent women and men feel “at home” in the different disciplines and subject areas.

Janus: Only in the Natural Sciences?

One question that has emerged in the debate concerning the Janus model is whether it applies to academia in general or only to the natural sciences. Is there any reason to assume that the model is more relevant to the natural sciences than to other disciplines? We do not know for certain, but we presume that the model’s main features are applicable across disciplines. It is a common feature that the proportion of women decreases considerably towards the top in academia.

At the Faculty of Mathematics and Natural Sciences in the University of Oslo, the proportion of women on the PhD level is 44 per cent, and it drops to 22 per cent on the professor level. Within medicine, the percentage drops from 61 per cent on the PhD level to 36 per cent on the professor level. Within the social sciences it drops from 62 per cent to 34 per cent, in the humanities the drop is from 60 per cent to 36 per cent, and within

the legal sciences it drops from 60 per cent to 34 per cent (figures from DBH, 2020). The tendency is clear across the disciplines. Students express a wish for gender-balanced learning environments across faculties. Lack of gender balance in degree programmes can also negatively affect the minority who are to be “cheered on” (Thun & Holter, 2013).

This may indicate that even though some things are characteristic of the natural sciences, the main features of the pattern of accumulated disadvantages and the Janus model are much the same (the effect is at least quite similar). We do not know this for sure until the FRONT study is replicated in other disciplines.

It is possible that the natural sciences are “backwards”, but they might also be at the forefront of change precisely because the problems have been so obvious.

What I also thought was really nice, then, was, in a way, to have awareness of this, to be a little aware of, in a way, why ... if the candidates are equal, why would you prefer one over the other, and then be a bit aware of that you perhaps, yes that you perhaps unconsciously may prefer the man, and that you need to think about that when you make assessments.

(Female master’s student with experience from student politics, interview)

Janus: Relevance to Diversity?

Another important question is whether the Janus model applies to different dimensions of social inequality, or if it applies only to gender. Both the Janus and the Bøygen (the Boyg) models are developed on a broad basis grounded in theory of social inequality, not only gender and power. Critical gender role theory has had a certain “intersectional” approach for a long time, in which researchers examine various grounds for discrimination, such as gender and class, in connection – something we also do in the FRONT project (Chapter 6).¹¹ But the Bøygen and Janus models are primarily about gender and were developed based mainly on research on gender. Might they also contribute to an understanding of other dimensions of social inequality and diversity? Can these “gender-derived” models contribute to areas such as social class and ethnicity?

Here the answer is yes, in our opinion, but in different ways. The Bøygen model and the accumulation of disadvantages within the group with low status is not unique to gender. It also applies to ethnicity and class. The material in FRONT provides a good foundation for this claim (Chapter 6). The model has somewhat different modes of operation based on each dimension. The accumulation of problems, with a greater chance of inner doubt, is a general feature, however.

The Janus model is more specific with regard to gender, while also including important factors relating to ethnicity and class. It is more specific because the gender division is much more apparent than other divisions in our material (Chapter 6). Gender is much more marked as an “accepted difference” in degree programmes and career paths than ethnicity and class. Class (parents’ educational background) does admittedly play an important role in recruitment to academia, but it is also highly under-communicated. The material demonstrates ethnic segregation, but gender segregation is greater (Chapter 6).

The Janus model thus can help to identify various factors within other dimensions as well, such as ethnicity and class. It is a “combo model”. The combinations are doubtlessly somewhat different within other dimensions, but the method itself may be helpful. Being “strange” or “somewhat different” is treated differently upwards on the career path. The model is a contribution to a mapping of this terrain.

Conclusion

The Janus model describes academia’s two faces – one friendly, one stern. It contributes to an understanding of why gender balance is difficult to achieve on the top level in academia, and why gender segregation persists. Although the organization works towards gender equality, important structural and cultural mechanisms counteract this effort. Considerable acceptance of gender segregation at the beginning of a career is part of a pattern that disqualifies women or makes them withdraw further up on their career path. The result is referred to as a “leaky pipeline” in international research. Difference becomes ranking. This is the core of the Janus model. Gender difference that is considered legitimate at the beginning

of a career contributes to discrimination based on gender higher up in the system.

The Janus model can facilitate an explanation of how accumulated disadvantages and “Bøygen” (the Boyg) work over time. The work environment may be supportive of gender equality, while professional, structural and cultural mechanisms work to the detriment of women. The model can explain how gender imbalance is sustained, despite an emphasis on gender equality and relatively limited direct gender discrimination within the organization.

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Notes

- 1 Disciplines such as medicine and odontology went from being male-dominated disciplines to having a clear majority of women. The same development took place in higher education within the social sciences, law, economy and administration, and some of the humanities (NOU 2019: 3, p. 60). Many disciplines and subareas within disciplines have largely remained stable over time. This applies to programmes within the healthcare sector, higher education in pedagogy and high

- school education in the construction sector. It also seems as if the increase in the female proportion has slowed down over the past decade with a few exceptions, such as in law (DBH, 2021).
- 2 In other words, along the lines of a “system problem”, see Chapter 9 on the Triview model.
 - 3 We use “social inequality” as the term is commonly used today, i.e., social stratification related to gender, ethnicity, sexuality and other traits, often referred to as “grounds for discrimination” (see Chapter 6).
 - 4 Differentiating or treating the genders differently is what we call gender differentiation. The ranking of genders we call gender stratification. We are “dusting off” a forgotten distinction within gender role sociology (H. Holter, 1973a, p. 14). It was forgotten or put on the sidelines, as the distinction was considered artificial. Moreover, much research found support for gender differentiation being “created” primarily by gender stratification – in other words as an expression of power or as a consequence of power relations. This is not a debate to be addressed here. Our claim is just that this analytical distinction is useful. Although differentiation and stratification are often associated processes, they are two different issues.
 - 5 Partly with question marks, indicating where this pattern seems to be most common.
 - 6 Among these are also studies of the “technology culture” characterizing some parts of the faculty (Ø. Holter, 1990).
 - 7 In addition to problems towards the top of the career ladder, skewed selection leads to segregation, often with unfortunate effects for the highly underrepresented gender in a discipline. This is discussed in Chapter 9.
 - 8 Structural or “passive” discrimination and “active” discrimination based on gender are often connected (see e.g., Ø. Holter, 2013) – but this does not cancel the analytical distinction between them. The same applies to the distinction between differentiation and stratification relating to gender.
 - 9 *Social mechanism* means a clear empirical pattern in which social structures affect power, action, etc.
 - 10 In other words, gender relations are, to a greater extent, personal and – according to economic research – more characterized by distribution and gift exchange (including household and family relations) compared to class relations, which are characterized more by commodity exchange and market relations. For a case study of labour and family in technology communities, see Ø. Holter (1990). For broader theoretical development of gendered work distribution and gender roles, see Ø. Holter (1997).
 - 11 For an example of recent Norwegian research looking at gender and other grounds for discrimination in connection, see *Akademiet for yngre forskere* (2019).

