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Rankings in a comparative perspective: Conceptual remarks

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INTRODUCTION

Rankings seem to be as old as modernity. While the word ranking in the current meaning of the term might be relatively new¹, the ideas at the core of the social process of ranking – evaluate performances, attach numbers to them, order them on tables and publish them – can be traced back at least to the 18th century. The field where these characteristics first came together, however, may come as a surprise to many familiar with today’s rankings: Instead of universities, enterprises or governments, the first to be ranked seem to have been painters, writers and musicians, and instead of media/data enterprises, market researchers or international organizations, the first rankers were art critics. The first table resembling a modern ranking, in fact, appears to have been the “Balance des Peintres” compiled by the French critic Roger de Piles in 1708, which evaluated European painters from different epochs according to four criteria (“composition”, “dessein”, “colors” and “expression”) on scales from 0-20. As opposed to today’s rankings, though, it did not yet calculate overall scores and did not determine the order on the table according to scores. In the course of the 18th century, the “balance” was adopted by various French, British and German art critics and modified for the evaluation of other arts, among them Mark Arkenstone’s “Balance of Poets” (1746) and the anonymous “Scale to Measure the Merits of Musicians” (1776). At the

¹ According to the Oxford English Dictionary (OED), the main precursors of the current meaning seem to have emerged in the 16th and 17th century: the verb “to rank” as “to put in order, to classify, to assign a rank to” in the 1590s, the noun “rank” as “a relative position” or “a category of persons, animals, or things in a scale of comparison with others of the same type” in the early 17th century. However, the examples given by the OED for the meaning assumed in research on rankings – roughly: “tables/similar devices used for the comparison of performances” – date back no earlier than to the mid-20th century (first referring to sports/athletics).

beginning of the nineteenth century, this copycat-process² finally led to the first ranking with overall scores and an order in line with those scores, compiled by Jean-Francois Sobry, again regarding painters, in 1810 (for details of these and other early examples cf. Spoerhase 2014). Today, of course, rankings are much more prominent than they were in the 18th century and much more prominent in other fields than in the arts – suggesting that their career is inseparably connected to the historical development of the societal fields in which they operate.

In our view, then, these historical insights imply that a sociological perspective on rankings should be *comparative* in both historical and systematic regards, taking interest in the long-term emergence and diffusion of rankings in modernity as well as in the fact that rankings can acquire different meaning and impact depending on the societal field in which they are embedded. The following paper discusses conceptual basics of such a comparative perspective on rankings. Our main aim is not to advocate a particular sociological theory but to provide a conceptual framework for a discussion on rankings across the established theoretical and empirical camps in the social science literature. For this purpose, we suggest defining rankings as the interplay of four elements: (1) zero-sum comparison, (2) quantification, (3) visualization, and (4) publication. While distinguishing these elements analytically, we also argue that it is the particular way in which rankings *combine these elements* that is at the heart of modern rankings. In short, for the *social operation ranking* to exist and succeed, all of these elements have to work together and be institutionalized in societal fields. However, as will be shown, this definition allows for a wide array of possible combinations, theoretically as well as empirically. In a philosophy-of-language terminology, one could say that the first two elements capture the informative dimension of rankings, whereas the latter two capture the performative dimension. This concept is supposed to help distinguish rankings from historical predecessors and related phenomena (such as ratings) and thus pave the ground for comparative studies of rankings.

² That imitation was indeed involved is evidenced by the fact that all of these proto-rankings – at least the ones mentioned by Spoerhase (2014) – used exactly the same scale as the original “Balance des peintres” by Roger de Piles, namely 0-20 (in one case, 1-20).

CONCEPTUALIZING RANKINGS: ZERO-SUM COMPARISON, QUANTIFICATION, VISUALIZATION AND PUBLICATION

In the literature, rankings have been subsumed under various concepts, such as “comparative technologies” (De Rijcke et al. 2015, p. 2), “numerical operations” (Hansen 2015), “engines” (Pollock & D’Adderio 2012: 566), “devices” (Hansen & Flyerbom 2015), and “indicators” (Davis et al. 2012). In our view, all of these terms point to important aspects of rankings – the constitutive role of *comparisons*; the active, transformative role implied in terms such as *technology*, *operation* or *engine*; and the role of numbers as suggested by terms like *indicator* – but none of them quite captures their specificity as a social operation. To integrate these insights, we suggest understanding rankings as an interplay of four elements: (1) zero-sum comparison, (2) quantification, i.e. attaching of numbers to the results of comparisons, (3) visualization (on tables or similar devices), and (4) publication (integration into public discourse). Modern rankings, we argue, combine these elements in a unique way that makes them an object of research in its own right. This section explains each of these characteristics – and their relations – in turn.

ZERO-SUM COMPARISON: PRODUCTION OF COMPARABILITY AND DIFFERENTIATION OF THE COMPARABLE

Building on descriptions of rankings as “comparative technologies” (De Rijcke et al. 2015, p. 2), we understand rankings as *comparisons that constitute zero-sum relationships between different entities (e.g. material objects, performances, actors)*. Comparisons can be understood as social practices that combine two simultaneous operations (cf. Heintz 2010): They (1) *establish comparability* by observing different entities as members of the same category (comparability by categorization) and (2) *discern differences* between these entities by evaluating them according to additional criteria (differentiation of the comparable).³ By combining these two operations, comparisons are able to simultaneously attribute sameness and difference to the same entities. For instance, comparing apples and oranges as “fruits” (comparability by categorization) with different “colors” (differentiation of the comparable) establishes sameness and difference between apples and oranges. A university ranking establishes comparability by defining certain organizations as “institutions of higher educa-

³ It should be noted that the compared entities, too, are constructed (and reified) in the process of comparing.

tion" (comparability by categorization) and difference by evaluating them according to criteria like "research output" or "number of graduates" (differentiation of the comparable). Similarly, the 18th-century-tables mentioned above produced comparability by categorizing certain individuals as "painters" and establish differences between them by evaluating them as more or less "expressive".

Rankings, however, are not just comparisons but *zero-sum* comparisons. "Zero-sum" denotes a particular kind of comparison that *is based on the assumption that a quality ascribed to some compared entity by implication cannot simultaneously be ascribed to another compared entity*.⁴ In these cases, the "sum" of possibilities created by the assumption of comparability is transformed into a dependent relationship between the compared entities. Sport contests are obvious examples: As the victory can usually only be attributed once, attributing the victory to one participant comes at the expense of all other participants; descriptions of sports contests therefore usually involve zero-sum comparisons, with the superior "performance" of one contestant coming at the expense of all other contestants. Similarly, describing a conflict between neighboring states for a certain territory, assuming that any territory can be claimed only by one state at the expense of all others, usually implies a zero-sum comparison between their spatial claims. By contrast, the aforementioned comparison between apples and oranges does not involve a zero-sum comparison, as long as we assume that the orange being orange does not preclude the apple from being orange, too (it just so happens that apples aren't orange). Here, we attribute the exclusiveness to the given ("absolute") characteristics of the compared objects, not to the *relationship constituted by the comparison*. (In other words, you can indeed compare apples and oranges; it is just not that interesting).

While these cases seem to be rather clear-cut (the first two zero-sum, the last non-zero-sum), *rankings* cannot be as easily classified. Rather, they are particularly interesting types of comparisons precisely because they are involved in the business of actively *transforming non-zero comparisons into zero-sum comparisons*. Put bluntly, it is not „in the nature“ of the ranked units to see each other as part of a zero-sum relationship. Rather, the zero-sum relationship is created by the rankings. Take the case of university rankings that compare univer-

⁴ The term is most commonly used in game theory as part of "zero-sum games"; in such games, any gain by one participant comes at the expense of other participants (e.g. Barachach 1991). Our usage of the term adopts this more specific meaning for a constructivist understanding of rankings (and, for that matter, other zero-sum comparisons).

sities based on criteria such as “amount of research output”: As the increasing research output of a university does not preclude other universities from increasing their research output as well (they might collaborate and grow together), comparing universities in that regard per se does *not* necessarily constitute a zero-sum relationship. Yet the ranking of universities seems to constitute another kind of zero-sum relationship based on, but not identical with, the comparison of research outputs: By presenting the comparison publicly, the ranking seems to be able to transform a non-zero-sum comparison into a zero-sum comparison that results in a sort of *imagined competition for reputation*. Rankings thus rest on particular and mostly implicit theories of comparability and consequences of public comparison that in turn rest on more general ideas about the desired state of society or particular societal fields (cf. Davis et al 2012, p. 77). To understand how this imagined competition for reputation is created we have to take a closer look at the other elements of rankings – quantification, visualization and publication – and at the ways in which they interact with the comparison element.⁵

QUANTIFICATION: TRANSFORMING QUALITIES INTO QUANTITIES

Zero-sum comparisons do not need to be quantitative. Calling someone the “greatest composer of all time”, for instance, constitutes a zero-sum comparison by excluding all other artists from this honor without using any numbers at all. However, there seem to be limits to the rhetorical power of such comparisons, limits that are particularly evident when it comes to *simultaneously comparing a large number of participants*. The art critic issuing the above statement, for instance, when asked for an explanation, will likely resort to comparisons between individual composers and elaborate arguments regarding their respective strengths and weaknesses. In the process of explanation, the initial zero-sum statement will be qualified, maybe relativized, at least more complicated, losing much of its initial clarity and simplicity (and usually, in the arts world, deliberately so). Against this backdrop, it is easier to understand the appeal of numbers as a rhetorical means of comparison: Attaching numbers to qualities allows preserving *the clarity and simplicity of zero-sum statements* by expressing the statement “the quality of entity A comes at the expense of entities B, C, D” in a clearer

⁵ In this description, we should stress, there is no quantification involved. Instead, we suggest distinguishing between zero-sum comparison and quantification to study the relationship between these two elements of rankings in more detail. In that regard, our conceptualization differs from Mary Espeland’s and Michael Sauder’s concept of “commensuration”, which includes not only comparability but also the transformation from qualities into quantities (cf. Espeland & Sauder 2007).

and more efficient way. Rather than elaborating in complicated detail why A is superior to particular others, we can now say that A has 2 more points than B, 5 points more than C, etc., and thus “obviously” tops all other actors in his/her field.⁶

Rankings, though, make use of the persuasive power of numbers in two distinct ways: First, by attaching numbers to qualities (quantification of qualities); and second, by redefining qualities as quantities (qualities as quantities). These two forms of quantification play different, though compatible, roles in the construction of zero-sum comparisons. In the first case, numbers represent qualities while remaining translatable into a non-numerical language of qualities. The early tables of artists cited at the beginning of this paper, for example, were based on quantitative scales that attached a number (0-20) to given aesthetic judgments, with the numbers expressing judgments that were generated and justified externally to the numerical system (although such a numerical system may then have subtly influenced future judgments). Such numbers can, in principle, be expressed in qualitative terms, e.g. a “1” in “expression” might translate as “extremely dull”, while a “19” might translate as “extremely expressive”. By contrast, in the second case the qualities itself are (re-) defined in quantitative terms: Scales such as “numbers of goals scored” (sports), “number of publications” (science), “numbers of fatal operations” (health care), define *quantitative qualities* that are numerical by definition and thus do not lend themselves to straightforward re-translations into non-quantitative terms. Rather than translation and interpretation, they constitute an emergent quantitative level of evaluation and therefore encourage the *collection of data* to substantiate the qualitative judgments inherent in such scales. Interestingly, some of the most prominent rankings today, such as university rankings or composite development rankings of nation-states, tend to *combine* these two variants of quantification by (1) establishing multiple quantitative qualities that stimulate the collection of data while also (2) introducing composite “indicators” that attach an overall number to the results, helping to order the

⁶ Terms like “simplification” or “reduction” (of complexity, uncertainty) are often used to describe the effects of quantification (e.g. Davis et al. 2012, p. 76). We agree with the general idea but would add three important reservations: (a) Quantification not only reduces but also *produces* (a new kind of) qualitative complexity, namely the complexity of quantified zero-sum comparisons; (b) quantification and visualization are two distinct modes of reduction (and production) of complexity that should be distinguished analytically; (c) finally, it is important to keep in mind that the public institutionalization of rankings produces an additional kind of uncertainty: uncertainty regarding the non-public (secret, hidden) behavior and motives of ranked actors. This is one of the reasons why we include publication into the concept of modern rankings (see below).

compared entities on a single table or similar visual device.⁷ An important consequence of both forms of quantification, particularly when combined, seems to be that they *help interpreting comparisons as zero-sum comparisons by introducing small-scale differences into a given comparative field* (cf. Werron 2014). By doing so, they enable *competitive relationships* by helping actors to see each other as competitors who, without the ranking, might have trouble recognizing each other as members of the same field at all.

VISUALIZATION: TABLES AND OTHER PERFORMATIVE MEANS OF RANKING

The two elements discussed above, zero-sum comparison and quantification, offer answers to questions like: *What* do rankings say, what information do they convey? In that sense, they describe the *informative* dimension of rankings. Additionally, there is what might be called the *performative* dimension of rankings: *How* do rankings say what they say, *how* are they *presented* and communicated? In our view, this type of question is equally important as the first, as it is the combination of these two dimensions that constitutes rankings as a *social* practice.⁸ Here, we suggest distinguishing two sub-themes: visualization and publication. Both rest on the idea that the *social* production of quantified zero-sum comparisons calls for means of communication that preserve their rhetorical power while also making them accessible to, and attractive for, third parties.

Visualization can be understood, first and foremost, as the performative flipside of the rhetorical power of quantified comparisons. Visualization devices allow presenting both the range of comparable entities (comparability) and the differences between these comparable entities (differentiation of the comparable) in one and the same operation, transforming the clarity and simplicity of quantified comparisons into a similarly clear and simple visual order. In doing so, they establish a “center of calculation” of sorts (cf. Latour 1987) where all supposedly relevant information of a comparative field can be digested, interpreted and presented to all participants of the field. The best-known device of this kind is a *table*, which seems to be an ideal tool to both (1) produce an *overview* of comparable entities (visualiza-

⁷ This, in fact, might serve as a useful concept of “indicators”: a second-order comparative technology that synthesizes the results of multiple quantitative comparisons in an overall single number.

⁸ We use the term “performative” here analogous to what Karl Bühler identified as the “expressive function” of language (cf. Bühler 1934). In sociology, a similar distinction has been suggested by Niklas Luhmann, who distinguishes “information” and “utterance” as two of three elements of communication (with “understanding” being the third; cf. Luhmann 1995). This understanding is different from what sociologists in the Actor-Network-Theory tradition call “performativity” (which, however, may prove to be important when it comes to analyzing the *effects* of rankings).

tion of comparability) and to (2) visualize a *hierarchical order* based on differences in performance (visualization of differences).

Moreover, there are alternative ways of visualizing quantified zero-sum comparisons that currently seem to be growing in significance. A particular interesting one is the “magic quadrant” by the industry analyst firm Gartner Inc. as analyzed by Pollock & D’Adderio (2012). Basically, this is a visual tool to create market relationships between IT firms. It does so by defining a two-by-two matrix, with the x-axis labeled “completeness of vision” and the y-axis “ability to execute”, leading to a distinction of four ranking tiers in a given market field (“niche players”, “challengers”, “visionaries”, and “leaders”), which is then used to position each competitor – in form of a dot – within the matrix. The result, compared with a table, is a more complicated order, which, however, still is able to provide an implicitly hierarchical overview of a competitive field (and, in that function, may be transferable to other fields as well).⁹ Another interesting and, it seems, increasingly popular alternative to tables is often used in web presentations of international rankings: *colored maps* that visualize membership in a particular tier of a ranking by attaching a country, city or other cultural-politico-geographical entity *with a color that signifies membership in this rank (or tier)*. In our view, these and other means of visualization should be analyzed not just as representations but also as *co-creators* of rankings. But to establish the idea of quantified zero-sum comparison in the social imagination they also have to be re-produced and institutionalized in societal fields. This, we argue, happens via *publication*.

PUBLICATION: CREATING AND ADDRESSING PUBLICS FOR COMPARATIVE FIELDS

This leads to the fourth and final conceptual element of rankings: Comparison, quantification and visualization are necessary but not sufficient to establish rankings as a distinct social operation. Rather, rankings transform such comparisons into zero-sum comparisons *by drawing the attention of an audience to the comparative field*. To grasp this point, it helps to distinguish between two connotations of audiences or publics in the social science literature. In the first understanding, publics are seen as tangible groups with certain structural characteristics. Regarding university rankings, for instance, we might think of “scholars”, “politi-

⁹ Interestingly, the gain in complexity (compared to a table) seems to come at the expense of visual inclusiveness; according to the producers of the matrix, the matrix produces a “beautiful picture” when it comprises 20-25 firms; a larger number makes it increasingly “unreadable”, a smaller number less useful (cf. Pollock & D’Adderio 2012, p. 578).

cians”, “students”, “parents”, etc., as possible audience groups that receive rankings in different ways and with particular interests. By contrast, the second, discourse-theoretical view conceives of publics as *imagined entities* that arise in mutual relationship with public discourse, assuming that publics come into existence by being addressed in public discourse, just as public discourse comes into existence by addressing a public (cf. Warner 2002). To conceptualize rankings as a specific social operation, we propose to draw on the second understanding: It is the continual addressing of publics in public discourse which makes it possible to *imagine the favor of a public as a scarce good* – and to conceive of rankings as a means (among others) of distributing this favor between ranked entities, a good that is mostly described in terms of “reputation” or “prestige”.

To use the example of university rankings mentioned at the beginning: Increasing research output by one university as such may not prevent other universities from increasing their research output as well. Nonetheless, rankings can create zero-sum relationships between universities by addressing a public that is imagined as being interested in the comparison of the universities’ performances. On this basis, the quantification and visualization techniques described above can be used to suggest that any improvement of one university, by letting it rise in the ranking at the expense of others, leads to reputation gains of this university and reputation losses of other universities. The result can then also be described in terms of social construction of competition for “soft” goods such as reputation or prestige (for details cf. Werron 2014, 2015).¹⁰ In short, the “zero-sumness” of the ranking is not just a result of visualized and quantified comparisons, it is the result of the embedding of these comparisons into public discourse. Accordingly, the rhetorical power of rankings is only one part of the solution of the puzzle of how rankings create zero-sum comparisons. The other, equally important answer points to *modes of public discourse* that lead to the institutionalization of rankings as a social practice in various societal fields.

By entering public discourse, the intended meaning of rankings and the implicit theories in which they are embedded become a matter of social contestation, being appropriated, interpreted and altered by others. Including “publication” into the concept of rankings helps account analytically for such processes – and thus for the possibility that rankings might ac-

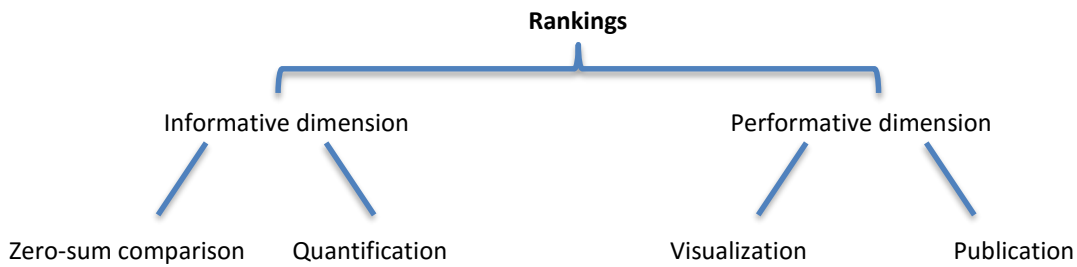
¹⁰ The Boudieusian term „symbolic capital“, which highlights both desirability and scarcity, might be useful as an overall description of these goods.

quire a meaning and produce an impact quite different from the ones imagined by their creators.¹¹

Furthermore, highlighting the “publicness” of rankings not only allows for a more sophisticated understanding of the social production and appropriation of rankings, it also draws attention to a problem that has rarely been discussed in the literature: the possibility, indeed likelihood, of *loose coupling between the public discourse that institutionalizes the ranking on the one hand and the often nonpublic motives and behavior of the ranked actors, their publics, and the rankers on the other*. This encourages the sort of secret gaming strategies vividly described, with regard to law school rankings, by Espeland & Sauder (2007), but also poses the more general problem of how to study hidden effects, or lack thereof, of rankings, which may often be hard to observe for competitors, third parties and scholars alike. Another way of putting this insight is to say that rankings reduce certain kinds of uncertainty by introducing new kinds: They *reduce* uncertainty by making performances publicly comparable and supposedly transparent; they *produce* uncertainty by co-creating a public stage that might only be loosely coupled to the social reality it supposedly represents. This Janus-faced characteristic should also have consequences for empirical research on rankings. Most notably, it cautions us against confusing the increasing public visibility of rankings too easily with increasing actual impact; rather, seeing them as a product of institutionalization-qua-publication urges us to investigate the relationship between public and hidden aspects of rankings in more detail.

¹¹ Part of this process is what might be called the *interactive production* of rankings: While rankings traditionally come (and are published) in a pre-fixed form, web-presentations often offer interactive elements that enable the personal adoption and interpretation of rankings by clicking at individual indicators and decomposing/re-composing the ranking. The Anholt City Brand Index is a good example: While this ranking appears to be a simple top-40-list of cities, the web-presentation allows users to explore the sub-categories and scores individually (cf. Kornberger & Carter 2010). Similar tools are offered on the websites of most international rankings.

Fig.: Graphic illustration of our concept of rankings



CONCLUSION

In this paper we have suggested a concept of rankings that sees them as a social operation that combines zero-sum comparison with quantification, visualization and publication. To put it more elaborately: We see rankings as a social operation that presents quantified comparisons to a public in such a way that the public favor gained by one compared entity (performance, actor) is likely to be perceived as coming at the expense of other entities. It is because of the “zero-sumness” thus created that rankings also work as a mechanism for the production of competition for symbolic goods such as reputation or prestige. In the existing literature on rankings, we believe, this proposition stands out particularly in two regards: it draws attention to the ways in which rankings combine and integrate these four elements; and it highlights the “publicness” of rankings as a condition of both their emergence as a particular social operation and their institutionalization to different degrees in different societal fields. In empirical research, this analytical framework urges us to take a closer look at the interplay of these elements in the *production* of rankings, at the ways in which they are *institutionalized* (or rejected) in different societal fields, as well as at the particular *effects* that result from these modes of production and institutionalization.

This view deliberately complicates and historicizes research on rankings and thus is critical of views that paint with too broad brushes, such as the tendency to equate the rise of rankings with the recent rise of neoliberalism (which neglects the long-term history of rankings and their embeddedness in different societal fields) or the assumption that humans are anthropologically driven by an intrinsic thrust towards competition or comparison (which deflects

attention from historical contingencies and improbabilities in the rise of rankings). It is also skeptical of all-to-quick answers derived from certain theoretical perspectives, such as a systems theoretical interpretation that might try to explain rankings as a means of reducing the complexity of the functionally differentiated modern society, or a Boudieusian one that might see them as just another trigger of a given structural characteristic of societal fields (namely, competition for various forms of capital). Rather than hasty applications of existing theories this view encourages comparative research that does justice to the empirical complexities of rankings and uses them as an opportunity to refine these theories in the light of new empirical findings. For these reasons, we have argued for a meta-theoretical concept of rankings that may bring together scholars with different theoretical backgrounds and various empirical research interests. In our introduction to the workshop in Bonn, we plan to use this outlook to develop a catalogue of research questions that may help connect our empirical projects and kick-start a common discussion on comparative research on rankings.

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