

Relationship between politics and science: a complementary model of political consulting

Abstract

"Listen to science" is the motto in both Corana and climate policy. This is not a new motto. The scientification of politics has been progressing since the 19th century. Scientificity is guaranteed on the basis of two pillars: Rationality and empiricism are the overriding principles that scientific research must respect, since scientific theories consist of a logical-mathematical formalism and an empirical interpretation of reality.

The central question is: How exactly should the relationship between politics and science be shaped? This article focuses primarily on the principle limitations of existing policy consulting models. I argue for a complementary model of policy consulting, in which each subsystem, policy and science, fulfills its tasks as well as possible.

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Further publication on the topic:

Methodology and political science: the discipline needs three fundamentally different methodological traditions. In: Springer Nature Social Science 1, 43.

<https://doi.org/10.1007/s43545-020-00034-0>.

Source: www.lauer.biz/political-consulting.pdf.

Published: [The European](#).



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1 Introduction: Rationality, empiricism, science, models of political consulting¹

The terms “rationality” and “science” are used interchangeably by many scientists. There is no question that science implies a rational approach. But science requires not only a rational formalization but although an empirical anchoring. Empiricism and rationality are the overriding principles that scientific research must respect, since scientific theories consist of a logical-mathematical formalism and an empirical interpretation of reality.

"Listen to science" is the motto in both Corana and climate policy. This is not a new motto. The scientification of politics has been progressing since the 19th century. In the sixties of the last century, there was already a real exaggeration of science. This was accompanied by the popularity of the technocratic policy consulting model.

This article focuses primarily on the principle limitations of existing policy consulting models. Second, a different, complementary model is presented. Science, for reasons of principle, can only ground hypothetical knowledge. The if-then deep structure of knowledge does not allow for definitive decisions. A fortiori, science can neither make binding decisions nor assume liability for the associated consequences. The political institutions of a state can, first, make binding and definitive decisions, and at the same time be liable for the consequences. Therefore, I argue for a complementary model of policy consulting, in which each subsystem, policy and science, fulfills its tasks as well as possible.

¹ The basis for this article was laid in a dissertation that was accepted at Heidelberg University: supervisors Klaus von Beyme and Michael Haus (Lauer 2017, 2021). The axiological, epistemic, methodological and ontological assumptions that this article makes have been discussed in detail there. Earlier versions of this article were presented in the seminars of Klaus von Beyme and Michael Haus at the Institute of Political Science at Heidelberg University. I would like to thank all participants for critical comments. Thanks also go to Karim Elawar and Doris Kloor for linguistic advice. Any remaining deficiencies are mine alone.



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2 Models of political consulting: technocratic, decisionist and pragmatic political consulting models

Within science, three different political consulting models are discussed: technocratic, decisionist and pragmatic models. At the center of these models is the question of how one should shape the relationship between practical politics and science. How important should scientific knowledge be? What value should science have for practical politics?

Two *sources of legitimation* for political consulting models that lead to legitimation dilemmas are particularly emphasized: *democratic legitimation* and *epistemic legitimation*, or factual expertise. Since the beginning of the 20th century, the latter has generally meant scientific expertise. That is why one speaks of a technocratization or scientification of politics and of society in general. The legitimation is therefore the central problem of political consulting: “There is a fundamental conflict between the legitimation through delegation (representation) and the influence of politically illegitimate scientific advisors (experts) on the decision-makers” (Weingart 2006, 75, my translation).

The three different political consulting models were proposed to solve this legitimation dilemma. As many scientists can confirm (Bröchler /Schützeichel 2008, Falk/Rehfeld/Römmele/Thunert 2008, Grunwald 2008), these three political consulting models continue to determine both the political and the scientific debate.

2.1 The decisionist model of political consulting

The decisionist model of political consulting resolves the legitimation dilemma by advocating that the political, democratic institutions should have the ultimate and thus final decision-making power. The political institutions, or the state, must also be responsible for the consequences of these decisions. The major disadvantage of this model is the lack of factual expertise. Due to the complexity of modern societies, the



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political representatives are unlikely to have adequate specialist knowledge in all areas. This valid objection led to the development of a different model.

2.2 The technocratic model of political consulting

Some scientists, especially in the 1960s, but also in the current coronavirus and climate debates, have emphasized the importance of factual expertise and therefore tend towards a technocratic model, according to which science has the last word. The lack of democratic legitimation in this model immediately catches the eye. But while the *decisionist model* has democratic legitimation, it lacks factual expertise.

The representatives of the technocratic model rely above all on the higher rationality of scientific knowledge or the better factual expertise of science and argue for a scientification of politics. A fusion of politics and technical factual logic is propagated; at the height of the planning euphoria of the 1960s, Helmut Schelsky described the task of a statesman in a technical state as follows: “For this ‘statesman of the technical state’, this state is neither an expression of the will of the people nor the embodiment of the nation, neither the creation of God nor the vessel of an ideological mission, neither an instrument of humanity nor that of a class. The factual constraint of technical means, which want to be operated under the maxim of an optimal function and efficiency, removes these questions about the meaning of the nature of the state. Modern technology needs no legitimacy; with it one ‘rules’ because it functions and as long as it functions optimally. It also does not require any other decisions than those according to technical principles; this statesman is therefore not at all a ‘decision maker’ or ‘ruler’, but analyst, constructor, planner, realizer” (Schelsky 1965 [1961], 457, my translation).

The technocratic model now clearly has a democratic legitimation problem or, as Schelsky says, modern technology does not need legitimacy because unelected scientists or even anonymous scientific institutions make binding decisions for everyone.



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2.3 The pragmatic model of political consulting

As a way out of the dilemma between decisionism and technocracy, Jürgen Habermas proposed the pragmatic model of political consulting. This model aims to enable the advantages of democratic participation and scientific expertise, i.e. to bring together decisionism and technocracy, and at the same time prevent the disadvantages mentioned above.

This model is discussed in many political consulting manuals (Bröchler /Schützeichel 2008, Falk/Rehfeld/Römmele/Thunert 2008, Grunwald 2008) and is even preferred by most scholars. It is also used in practical politics: for instance, the EU Commission relies on the pragmatic model and advocates both *democratising expertise* and *expertising democracy* (EU-Commission 2001a, EU-Kommission 2001b).

When politicians hope that “science” and democratically elected politicians can work together to find the only true, fair and efficient solution, they are putting their trust in the pragmatic political consulting model.

3 Critique of the three political consulting models

3.1 Empiricism and rationality, the overriding criteria of scientific rationality

Empiricism and *rationality* are the overriding principles that scientific research must respect, since scientific theories consist of a logical-mathematical formalism and an empirical interpretation of reality. Science requires a rational formalization and a similar approach as well as an empirical anchoring. These principles are fundamental not only for the knowledge of reality, but also for the legitimation of regulation and standardization.

3.2 Rationality: principles of logical-mathematical models and interpretative-hermeneutic narratives

The following general criteria are recognized by the majority of scientists (Lauer 2017, 2021):



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A. *Intersubjectivity* (trans-subjectivity): Science searches for justifications that any reasonable and knowledgeable person can understand.

B. *Objectivity*: No subjective desires or prejudices, but only intersubjective reasons, may flow into the work.

C. *Reliability*: The results of scientific investigations should be reproducible under the same conditions.

D. *Validity*: A scientific result must have argumentative weight and meet methodological and logical quality criteria. Argumentative, logical, methodical and linguistic precision are required. A distinction is made between internal validity (credibility and authenticity) and external validity (transferability).

3.3 Fundamental limits of scientific knowledge

In addition to democratic deficit, the technocratic model has epistemological deficits that is at least as important: In the following, the most important ones are treated, which establish the principle limits of knowledge par excellence: the if-then deep structure of scientific research, the impossibility theorem or Arrow paradox, and the theory, better methodology dependence of empirical data. This is followed by a brief discussion of the limits to the scientification of politics (detailed discussion, Lauer 2017).

3.4 The if-then deep structure of scientific knowledge

The boundaries between scientifically-based knowledge and other forms of knowledge are determined by methodology. We have seen an enormous expansion in this regard since ancient times as a variety of methodologies have evolved and new innovations have been added. The greatest advances came in the 20th century. In addition to the expansion, there is also often a limitation of the scientific possibilities because new fundamental limits of rationality and thus of science are discovered.

For reasons of principle, science can only establish *hypothetical knowledge*. The if-then deep structure of knowledge does not allow for definitive or binding answers, let



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alone decisions. The if-then structure of scientific knowledge is a reminder that no absolute knowledge is formulated and justified within science and that only hypothetical and relative if-then relationships can be justified.

Nevertheless, this does not lead to an anti-truth or antiveritative position, as supporters of skepticism claim. Thus, no relativity of the truth claim is postulated, the relation between assumption and consequence contains an absolute truth claim, and scientific analyses are about the knowledge of facts under assumptions: "If one analyzes such a statement with respect to its deep structure, almost always a structure of the type of the hypothetical statement, i.e. an if-then statement, is revealed. With its help it cannot be asserted that something is the case per se, but always only that it is the case if certain conditions are given. [...] The hypothetical depth structure of the theoretical-scientific statement shows, contrary to a widespread misunderstanding, no relativity of its truth claim. It is true that the claim to validity of every elementary statement is relativized, as it were, if it is linked with a hypothesis and is of interest only as a link of such links. But if one asserts the existence of a corresponding relation between assumption and consequence, then at least with this assertion the claim is connected to be valid par excellence and without restrictions. Modern science is therefore not simply concerned with the recognition of facts, but with the cognition of facts under assumptions" (Wieland 1986, 31, my translation).

Nowadays the if-then structure of scientific findings is frequently misappropriated even by the scientists, who should actually know better. Results are often communicated as if they were spatially and temporally universally valid findings. Such misrepresentations begin with something like the following words: "Scientists have found that y is true". Universal, context-free findings can indeed be formulated in this way. But if one is to consider the context as well as the hypothetical character of rationally founded knowledge, the formulation should be as follows: "Scientists have found out that if x^1 , x^2 ... x^n are true, then y is true". In this context it is important to point out that this does not imply a relativizing of the truth claim. This if-then relation is absolutely valid in a



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possible world or in a mathematical-logical model. Whether it is valid in the real world is another question.

In any case, it can be said that, although the relation is not a universal truth, it is an approximation of the truth of the real world. The if-then structure of knowledge therefore makes it possible to formulate hypothetical knowledge without renouncing the ideal of truth. Relativizing the truth claim or even taking an anti-truth position is not necessary, but would rather do science a disservice.

3.5 Social welfare and the impossibility theorem or the Arrow paradox

The central question or the dilemma of social welfare is how one can aggregate individual preferences into social welfare – or can there even be a rational aggregation of individual preferences into social welfare? If this could succeed, then there would be a scientific, non-democratic legitimation of the actions that could be justified with this approach.

Kenneth Joseph Arrow (1963) shows that an aggregation of individual preferences for social welfare can satisfy neither democratic nor rational reasons. A positive answer is not possible for reasons of principle; this is the central message of the impossibility theorem or the Arrow paradox.

The aggregation of the individual preferences of all citizens into a consistent and complete social welfare function is impossible, according to Arrow, because it is either arbitrary or dictatorial. So it does not satisfy either rational or democratic criteria. No decision-making process is able to meet all of the following requirements at the same time (Arrow 1963: 25-31):

A. *Universality/completeness*: All logically justified preference orders of the individuals should be allowed.



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B. *Transitivity*: If someone prefers the alternative x to the alternative y and y to z, then x should be preferred to z and society as a whole must also come to this decision and specifically prefer x to z, provided the majority of the members do so.

C. *Independence*: Irrelevant alternatives must not influence the decision-making process.

D. *Sovereignty*: The social welfare function must not be dictated from outside.

E. *No dictatorship*: An individual is not allowed to dictate the hierarchy. No dictator who manipulates the hierarchy is allowed to appear in society.

3.6 Empirical anchoring: Methodology dependence on empirical data

In the twentieth century, however, many scientists, above all Karl Raimund Popper (1975, 1972), pointed out that empirical data was dependent on theory. In my opinion, reference should not only be made to the theory dependence, but more broadly to the methodology dependence of empirical data. Within methodology, it is a matter of what methodology is used to generate knowledge and how to distinguish science from other forms of knowledge. Empirical data are generated using scientific methods and theoretical approaches. Therefore, the limits and possibilities of methodology must be considered.

3.7 Limits to the scientification of politics

The scientification of politics, which fueled the planning euphoria especially in the middle of the 20th century and is again relevant today in climate and coronavirus politics, quickly gave way to disillusionment. Scientific methods can be used to justify several alternatives, even opposing ones. Reports and counter-reports continue to lead to a delegitimization of science because different parties with different interests contribute to the politicization or exploitation of science: “With every knowledge, non-knowledge increases, just as every expertise provokes counter-expertise. The increase in experts and the advancing colonization of further areas of society by more



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and more groups of experts leads to a delegitimization and a 'disenchantment' not of the world, but of the experts themselves" (Schützeichel 2008, 21, my translation).

And there is another epistemic problem: Who determines the state of science, or how can it be determined? There is no such thing as "science" in the singular; this is a completely misleading notion that is unfortunately used far too frequently, by the media in particular. There are only scientists, who generate scientific knowledge with the help of a scientific methodology. Even the most respected scientists who work in academies or universities or advise governments can make mistakes or propagate outdated research. Furthermore, the state of research is constantly changing.

Due to the fundamental limitations of scientific methodology, science can only provide *hypothetical answers*, not definitive ones. Political action and decision-making, however, require definitive answers. But definitive answers cannot be justified by the authority of science. While the decisionist model of political consulting respects the autonomy of the political, it violates the autonomy of science. In the technocratic model, the reverse is true.

For scientific political consulting in the 20th century, Peter Weingart (2006) differentiates between three unnecessarily diachronic phases: the scientification of politics (technocratic model), the politicization of science and the democratization of expertise (decisionist and pragmatic model). He rightly cannot see a solution to the legitimation dilemma in any phase: "The tension between the various rationalities of science and politics, which are expressed in the legitimation dilemmas, can hardly be 'solved'" (Weingart 2006, 83). Even the pragmatic model of political consulting is unable to do justice to both the autonomy of politics and the autonomy of science. In my opinion, a complementary model of political consulting can provide this.

4 A complementary model of political consulting

I believe that a complementary model of political consulting is better suited to combine factual expertise and democratic legitimacy. Science and politics should be conceived



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and understood as complementary systems with different tasks, competencies and functional logics. In this way, both democratic and epistemic legitimation can succeed, since the autonomy of both fields is accepted and is not called into question by other functional logics. Max Weber (2011) also advocates a separation of the different tasks: practical-political opinion and scientific analysis of political entities and partisanship are two different things.

4.1 The role of science within the complementary model of political consulting

Due to the limitations of scientific discourse, science can never provide *definitive* answers, but only *hypothetical* ones, as discussed above. With the help of scientific tools, science can conduct discourses and substantiate hypothetical answers to political-practical questions in the form of empirical (descriptive, explanatory and prognostic) and practical (normative, pragmatic and technical) knowledge. Furthermore, within scientific discourse, it can engage in ideology critique, i.e. debunk ideologies, subjective opinions, and petty slogans. In this context, a special feature can be noted: an *advocatory quality* (Fischer/Forester 1993) is inherent in science, i.e., arguments for or against practical-political standardization and regulation can be provided, but not definitive answers. The advocatory characteristic must be distinguished from manipulation by interests as well as by democratically legitimized commissioned research. Only manipulation by interests should be rejected.

4.2 The task of politics or political institutions within the complementary model of political consulting

The task of politics or political institutions is to provide *definitive answers* in the form of *decisions* with the help of political discourse and political decision-making processes. The democratic process is not just about making final decisions. Democratic institutions not only make definitive decisions, but also assume *liability* for all consequences associated with regulation, both for the intended main effects and for unintended side effects and collateral damage.



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Politics cannot, as the pragmatic model of political consulting suggests, improve the rationality of expertise (the opposite is achieved when political interests are taken into account), but merely make a (democratic) choice between different regulatory solutions or options. Only an advisory involvement of expertise (expertizing democracy) in democratic decision-making procedures is appropriate, but not, however, a democratizing of expertise. The latter would only lead to the violation of scientific standards and thus violate the autonomy of science.

Political action and political regulation cannot only be measured against two criteria: democratic input and technocratic output. Legitimacy requires further maxims for action that guarantee a moral dimension, not a moralization of politics. There are a large number of moral principles, which are laid down in the UN Charter of Human Rights and in the European Convention on Human Rights, to which political regulation even has to be judicially oriented. For every national legislator and politician, there are also legal principles that are anchored in national constitutions; in Germany these are the first twenty articles of the German constitution (Grundgesetz).

Even an aggregation of interests based on democratic criteria alone cannot be decided rationally (see Arrow paradox above). Political decisionism is therefore inevitable. "For short-term decisions, the democratic method of counting only the hands, not the reasons, is often the only one" (Lorenzen 1978, 163, my translation). In all scientific (descriptive, explanatory, prognostic, normative, pragmatic or technical) discourses only reasons are counted and thus empirical or practical knowledge is generated. Within political institutions, reasons and interests are then weighed up. In the case of democratic systems, however, the hands are decisive in making final decisions.

There will always be expert reports and counter-expert reports, and this is not objectionable because one can also scientifically justify different regulations. It is important, however, to distinguish between scientists and scientific analyses on the one hand and ideological expressions of opinion on the other. This is best done by



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recognizing the central importance of scientific methodology and by subjecting all regulatory proposals to scientific analysis.

Science can aid any party or interest group with practical knowledge about their interests and problems, but the answers it gives are hypothetical. Only state institutions can provide definitive answers through the established decision-making procedures. Political decisions are not primarily about the technical appropriateness of a decision, but about assuming *liability* for a decision.

A *doctor* has practical knowledge that can help make diagnoses. Furthermore, due to his practical skills, he can perform operations or provide therapies. However, he does not assume responsibility for the success of the operation or therapy, but only for the technical appropriateness of the diagnosis and the practical implementation of the operation or therapy. The patient always assumes liability, not just responsibility, for the consequences.

Applied to the relationship between politics and science, this becomes: Scientists establish empirical and practical knowledge, so they take on an advisory role for the scientific adequacy of knowledge. Due to the fundamental limits of scientific research, rational reasons can be formulated for several regulatory options. Definitive decisions should only be made within political institutions, because this primarily involves assuming *liability* for the consequences, both positive and negative.

Politicians should have the practical skills to apply the practical knowledge generated within science. Politicians within the executive branch and state officials should have the practical skills to implement the decisions made within the legislative and judicial branches. Differentiation and specialization also require a differentiated distribution of tasks. This leads to different competencies and, associated with this, to different responsibilities and, much more importantly, to liability for one's own decisions.

Another point of contention is the extent to which knowledge, methodologically founded by the sciences, is granted a position of primacy within society, or whether other forms



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of knowledge are to be regarded as legitimate in addition to scientific ones. Paul Feyerabend (1975) affirms the latter. The interpretation of his words as meaning that everything is allowed within science (anything goes) is only partly correct. He criticizes above all a scientification within society that rejects or sidelines all other justifications or knowledge generated by other means, and pleads for a separation of state and science.

The complementary model of political consulting takes into account the different tasks of politics and science and their different capabilities. I agree with Feyerabend that a separation between state and science is absolutely necessary. In my opinion, it is appropriate to make politics more scientific, but, not least because of the fundamental limits of scientific research, other forms of knowledge should not be excluded from the outset. Just as an autonomous patient has the right to decide for himself which therapist he trusts, a conventional doctor or a Hopi medicine man, so the sovereign also has the right not only to trust the competence of science, but also to include other sources of knowledge.

5 Conclusion

This article determined the following: The *decisionist model* of political consulting does justice to the *autonomy of the political* and can therefore have democratic legitimation, but it lacks factual *expertise*. The *technocratic model* violates the autonomy of the political, i.e. it has *no democratic legitimation*, but has factual expertise and thus *epistemic legitimation*. Habermas' *pragmatic model* attempts to do justice to both subsystems, but ultimately it cannot meet either democratic or scientific standards. The autonomy of both science and politics are violated. In addition, the fundamental limits of scientific research are ignored.

For reasons of principle, *science* can only establish *hypothetical knowledge*, but can neither make definitive or binding decisions nor assume liability for the associated consequences thereof. *Democratic institutions* can do just that: make *binding and*



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definitive decisions while also being *liable* for the consequences. Politics and science have different functional logics, i.e. they have different tasks and different claims. Therefore, they also have to meet different criteria. This is why I advocate a *complementary model* of political consulting in which each subsystem fulfills its tasks as well as possible: science can only generate hypothetical, but rational, empirical and practical knowledge, while politics can make definitive decisions and assume liability for the consequences.

6 Resources

Arrow, Kenneth Joseph. ²1963a [1951]: *Social Choice and Individual Values*. New Haven, London: Yale University Press.

Bröchler, Stephan/Schützeichel, Rainer, (eds.) 2008: *Politikberatung*. Stuttgart: Lucius & Lucius.

EU-Commission, 2001a: Report of the Working Group: "Democratising expertise and Establishing Scientific Reference Systems" (Group 1b). COM(May 2001, version finale du 2/7/01).

EU-Kommission, 2001b: *Europäisches Regieren*. Ein Weissbuch. KOM(2001) 428 endgültig.

Falk, Svenja/Rehfeld, Dieter/Römmele, Andrea/Thunert, Martin, (eds.) 2008: *Handbuch Politikberatung*. Wiesbaden: VS Verlag.

Feyerabend, Paul, 1986 [1975]: *Against Method: Outline of an Anarchistic Theory of Knowledge*. Minneapolis: University of Minnesota Press.

Fischer, Frank/Forester, John, 1993: Editors' Introduction. In: Fischer, Frank/Forester, John, (eds.) 1993: *The Argumentative Turn in Policy Analysis and Planning*. Durham, London: Duke University Press, 1993, 1-17.

Grunwald, Armin, 2008: *Technik und Politikberatung. Philosophische Perspektiven*. Frankfurt am Main: Suhrkamp.



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**Relationship between politics and science:
a complementary model of political consulting**

Source: www.lauer.biz/political-consulting.pdf.

- Habermas, Jürgen, 1968 [1963]: Verwissenschaftlichte Politik und öffentliche Meinung. In: Habermas, Jürgen, 1968: Technik und Wissenschaft als "Ideologie". Frankfurt am Main: Suhrkamp, 120-145.
- Lauer, Johann, 2021: Methodology and political science: the discipline needs three fundamentally different methodological traditions. In: Springer Nature Social Science 1, 43. <https://doi.org/10.1007/s43545-020-00034-0>.
- Lauer, Johann, 2017: „Methodenstreit“ und Politikwissenschaft. Der methodologische Glaubenskrieg am Beginn des 21. Jahrhunderts zwischen szientistischem Establishment und phronetischen Perestroikans. Heidelberg: heiBOOKS. DOI: <https://books.ub.uni-heidelberg.de/heibooks/catalog/book/304>. Webversion: lauer.biz/methodenstreit/index.htm. [“Methodenstreit“ and Political Science: Methodological Science War at the Beginning of the 21st Century between the scientific Establishment and phronetic Perestroikans. (lauer.biz/methodenstreit/index-en.htm)].
- Lorenzen, Paul, 1978: Theorie der technischen und politischen Vernunft. Stuttgart: Philipp Reclam jun.
- Popper, Karl Raimund, 1975 [1934]: The logic of scientific discovery. London: Hutchinson.
- Popper, Karl Raimund, 1972: Objective knowledge, an evolutionary approach. Oxford: Clarendon Press.
- Schelsky, Helmut, 1965 [1961]: Der Mensch in der wissenschaftlichen Zivilisation. In: Schelsky, Helmut, 1965: Auf der Suche nach Wirklichkeit. Gesammelte Aufsätze. Düsseldorf, Köln: Diederichs, 439-480.
- Schützeichel, Rainer, 2008: Beratung, Politikberatung, wissenschaftliche Politikberatung. In: Bröchler, Stephan/Schützeichel, Rainer (Hg.), 2008: Politikberatung. Stuttgart: Lucius & Lucius UTB, 5-32.



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a complementary model of political consulting**

Source: www.lauer.biz/political-consulting.pdf.

Weber, Max, 1973 [1919]: Wissenschaft als Beruf. In: Weber, Max, 191973a: Gesammelte Aufsätze zur Wissenschaftslehre. Herausgegeben von Johannes Winckelmann. Tübingen: J. C. B. Mohr (Paul Siebeck), 582-613 [524-555].

Weingart, Peter, 2006: ‚Demokratisierung‘ der wissenschaftlichen Politikberatung - eine Antwort auf die Legitimationsdilemmata im Verhältnis von Wissenschaft und Politik? In: Heidelberger Akademie der Wissenschaften (Hg.), 2006: Politikberatung in Deutschland. Wiesbaden: VS Verlag für Sozialwissenschaften, 73-84.

Wieland, Wolfgang 1986: Strukturwandel der Medizin und ärztliche Ethik. Philosophische Überlegungen zu Grundfragen einer praktischen Wissenschaft, Heidelberg: C. Winter.

7 Sources

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More detailed discussions on this topic can be found here:

Lauer, Johann, 2017: “Methodenstreit“ and Political Science: Methodological Science War at the Beginning of the 21st Century between the scientific Establishment and phronetic Perestroikans. Heidelberg: heiBOOKS. (lauer.biz/methodenstreit/index-en.htm).



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