

# Science, Power and Decision (Wissenschaft, Macht und Entscheidung)

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## I. The historicisation of the natural (physical) sciences and the (its) consequences (Die Historisierung der Naturwissenschaften und die Folgen)

Since its first world-theoretically backed up (founded, established) (fundierten) and systematic appearance, new-times (modern)<sup>1</sup> natural (physical) science (natural science of the New Times) (die neuzeitliche Naturwissenschaft) connected its self-understanding with a feeling (sense) of superiority vis-à-vis the historical sciences in general:<sup>2</sup> against the imponderability (incalculability) (Unberechenbarkeit), variability and consequently the inadequate (insufficient) apprehensibility of human things (affairs) (unzulänglichen Erfäßbarkeit der menschlichen Dinge), it (new-times natural science) believed that it could set a firm (fixed)

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<sup>1</sup> I.e. the era of the modern world when compared with the Medieval or ancient era in western European history, regardless whether one dates the New Times as commencing in the fifteenth century or earlier (or later).

<sup>2</sup> For many, detailed and specific references in relation to the history of ideas vis-à-vis all the unreferenced comments made by Kondylis throughout this article see Kondylis, P. *Die Aufklärung im Rahmen des neuzeitlichen Rationalismus (The Enlightenment in the framework of new-times rationalism)*, and also, *Die neuzeitliche Metaphysikkritik (The new-times critique of metaphysics)*.

knowledge about (in respect of) a firm (fixed) object: (that is, namely) nature in its law bindedness (determinism, law/rule-based necessity) (ein festes Wissen über einen festen Gegenstand: die Natur in ihrer Gezetzmäßigkeit). With this belief corresponded a perception (view) against an anthropological background (backdrop) that namely in the natural(physical)-scientific sector (area, realm) impartial (unprejudiced, unbiassed) Reason (unbefangene Vernunft) and rationally sighted (oriented) experience (vernünftig gesichtete Erfahrung) are active, whereas in the field (area, sector) of history, passions and feelings (Leidenschaften und Gefühle) prevail, that is, subjectively and ideologically determined (conditioned) positionings (stances). Here is not the place to follow the variations of this contradistinction (contrasting) between the natural (physical) and historical sciences of Descartes, Hobbes and Vico until (up to) neo-Kantianism.<sup>3</sup> What interests us rather (more) is the logical conclusion which must be drawn (deduced) from a reminder (reminding) of the history of ideas' (intellectual(mental)-spiritual-historical) facts (data): if the conviction regarding the objective and, as it were, (quasi) hyper-historical (überhistorischen) character of secured (definite, verified) natural(physical)-scientific knowledge goes with (is accompanied by) a (the) belief in the specific aptitude (singular (unique) (cap)ability) of mathematical natural (physical) science in overcoming, at least in the long term (over the long run), subjective arbitrariness or ideological prejudice through (with) Reason and experience - then on the other hand, the consistent admission of the historicity of the natural (physical) sciences cannot get out of (get away from, get around) a (the) confession (cannot but confess) that the fundamental forms of theoretical activity or human knowing (knowledge)

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<sup>3</sup> See Kondylis, P. *Die Aufklärung im Rahmen des neuzeitlichen Rationalismus (The Enlightenment in the framework of new-times rationalism)*, and also, *Die neuzeitliche Metaphysikkritik (The new-times critique of metaphysics)*.

are, after all, structured in essence identically in all sectors (fields, areas), that namely they are determined (conditioned) by the same anthropological and social-historical factors, even if on each and every occasion in different doses and while having a different effect (in varying potency). In recent (During the last few) decades the social and historical character of the natural (physical) sciences (Naturwissenschaften) was investigated (explored) with remarkable (noteworthy) clarity and consistency for the first time in the new-times (modern) history of ideas; in this way history and sociology took their belated (even if perhaps only short-lived) revenge, and indeed at a point in time (in an era), at (in) which the natural (physical) sciences in their various forms and applications, have become socially effective (affect (influence) society) like never before. Despite all this, the significance (meaning) of this new understanding (observation) of the natural (physical) sciences was not reflected upon thoroughly enough with regard to a general teaching (theory) about the forms of human thinking (thought) and knowledge - a teaching (theory) which could proceed (advance, push forward) up to the ultimate (final) anthropologically (pre-)given magnitudes (anthropologisch vorgegebenen Größen) (the apprehension of ultimate (final) anthropological facts (data))<sup>4</sup> and by starting (setting forth, commencing) again from them make the formations (kinds of moulding)

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<sup>4</sup> The ultimate anthropologically pre-given (or given) magnitudes in this article are power and decision (but they also include and or directly relate to (the many or innumerable manifestations of) human: action, meaning, rationality, identity, world images, world theories (views) ideologies, friend and foe (enemy), culture, etc.). They are observed as existing in, and relate to, human action in all human societies (whilst Kondylis uses the terms "behaviour" and "action" interchangeably in his writings prior to *Das Politische und der Mensch*, I prefer to draw the distinction between them referred to in his magnum opus, i.e. the former characterises the animal kingdom in toto inclusive of humans, while the latter is a distinctly human phenomenon of the human animal who does not just use existing symbols and tools, but also makes them). Power and decision are very broadly defined and are intertwined with biological constants such as the drive of self-preservation and the necessity of death (which through culture, as we shall see in relation to the drive of self-preservation, take on meaning), and of course, with human society (including the social relation) without which they cannot be anthropologically pre-given magnitudes, or a.k.a. fundamental categories, anthropological constants, etc.. See also footnote 9 below as well as Kondylis, P. *Macht und Entscheidung (Power and Decision)*, and, *Das Politische und der Mensch (The Political and Man)*.

and the peripeteia (shifts, shiftings) in thinking (thought) and knowing (knowledge) understandable.

The historicisation of the natural (physical) sciences means, not least of all (means first of all), the emphasising (underlining) and the locating of the role of the subjective factor in natural(physical)-scientific theory, that is, the rejection (refusal) of the traditional perception (view) in respect of the objectivity of physical(-scientific) knowledge. This rejection was already contained (included) in conventionalism at the turn of the last century (at the end of the 19th century) as well as in many a view (quite a few (certain) views) which was (were) held (expressed) during (throughout) the debates over quantum mechanics and the theory of relativity. But in these cases it was not just a question of the historical and social subject, but only (just, simply) of the natural(physical)-scientific subject; the subjective component of natural(physical)-scientific knowledge was therefore put into a combination (connected) with either the insurmountable knowledge limits and deficiencies of the physicist ((physical (natural)) scientist) as a finite human or with immanent necessities of the economy of thinking (thought). Yet from the moment at which the historicisation of the natural (physical) sciences began and the natural(physical)-scientific subject<sup>5</sup> was understood also, or above all, as a social and historical subject, the subjective component of natural(physical)-scientific knowing (knowledge) ought to have been reduced also, or above all, to the effect of world-theoretical(view, graphic, representative, illustrational) and ideological factors in the wide (broad) sense of the terms. Quite a few (A good many, Some) (observers) even came to the conclusion that behind the great theoretical generalisations only all too human wishes and hopes are hiding, and that

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<sup>5</sup> I.e. man as scientist.

is why they felt compelled to touch upon (pose, raise) anew old questions: what is knowledge? What is rationality? What is objective and subjective, what is a fixed (settled) scientific acquisition and what merely a relative or standpoint(position)-bound opinion? Whatever one may say (dwell upon) in this context (interrelation, correlation) about "thought styles" („Denkstile“) (and "mentalities (casts of mind, outlooks)") or about the structural similarities (common ground) between science and "myth" or "art", nevertheless (after all) the character and the range of the ((afore)mentioned) subjective component of natural(physical)-scientific knowing (knowledge) can hardly be apprehended (grasped) if they are not considered (looked at, observed, regarded) in the perspective of the fundamental categories of power and decision. Over and above (Beyond) that, only in this same perspective is a unified (uniform, united) and unifying consideration (observation) of the fundamental forms of human thinking (thought) in all fields (areas, sectors) possible, so that the humanities and the natural (physical) sciences (the sciences regarding nature and man) or the activities of the natural(physical)-scientific and the historical-social subject can be brought under a great common hermeneutic (interpretive) denominator.

Through the consistent hermeneutic (interpretive) application of both fundamental categories of power and decision a merely phenomenological description is transcended (surpassed), which cannot proceed (advance) beyond reducing thought contents to (their) thought styles or thought structures. That (reduction of thought contents to thought styles and structures) can be very useful; but over and above (beyond) that the reasons for the formation, change and dissolution (disintegration, breaking up) of thought styles and thought structures must be clarified (elucidated). Starting from the fundamental categories of

power and decision (Grundkategorien von Macht und Entscheidung) we proceed (venture, push forward) up to the anthropologically (pre-)given presuppositions of every theory formation and at the same time we are in a position to apprehend (grasp) (find ourselves in a position of apprehending) each and every respective theory in its historical concreteness. Because the ((afore)mentioned) anthropological given facts are activated only in and by means of (through) the relations between concrete human subjects, which for their part act and react inside concrete historical situations, i.e. they make (raise) power claims and they take (make) decisions. In the area (domain, realm) of theory, which is at the centre of these considerations of ours (the focus of our attention), the highly rich in variety (multi-form and ceaselessly alternating) game of power and decision takes (on) (adopts) specific forms, and that is why we must here undertake (carry out, attempt) the definition of these (basic) concepts, bearing in mind their relevance to (for) theory formation and change in theory (theory transformation) (die Theoriebildung und - wandlung).

## II. The essence (texture) and the mechanisms of power and decision (Das Wesen und die Mechanismen von Macht und Entscheidung)

In order to apprehend (grasp, understand) the essence (texture) of power, especially (particularly, and indeed) in the area (domain, realm) of theory, one must first of all break away (cut loose) from the usual express (explicit) or implicit confusion of power with the exercising of violence (force) in any form. Only where human life exclusively revolves around

physical self-preservation, that is in the most primitive of situations (states of affairs), does power largely coincide with physical superiority. Culture (civilisation) (Kultur) is characterised precisely by (through) the decoupling of power and (the exercising of) violence, and here power can be wielded (exercised) with merely (purely) ideational means (ideelle Mittel) on the part of the physically weaker (inferior) (physically weaker people). In culture and through it (culture) elementary biopsychic factors are translated into the ideational (ins Ideelle übersetzt) (into ideational magnitudes); in this way e.g. the drive (urge, impulse, instinct) of (for) self-preservation (Selbsterhaltungstrieb) is transformed (converted) into belief in the "meaning of life", which for its part (in turn) logically and psychologically supports all normative systems, or the sex drive (sexual urge) is transformed into "love" etc.. Simultaneously (Concurrently) however the field (area, sector) of the more or less refined (sophisticated) ideational (of more or less refined ideational magnitudes) is shaped (formed, moulded) in such a way that in it (the ideational field) a modified continuing (continuation, continuity) of those basic (fundamental) human situations and basic human ways (modes) of acting (action) takes place, which are also fundamental for the rest of the (remaining) fields of human life happening (taking place) in organised society - said more precisely: the field of the ideational (ideational magnitudes) is shaped (formed, moulded) first by (through, through and inside) this continuing (continuation, continuity) (of basic human situations and basic human ways of acting) (and through (inside) it), and indeed since (as) what constitutes its (this field's) specific (element (feature, characteristic)) (das Spezifische) is in constant interaction (or mutual influence) (interplay, alternating (changing) effect) (in der beständigen Wechselwirkung) with whatever constitutes the common

element of basic (fundamental) human situations and basic human ways (modes) of acting (action).

We now define this common element as (striving for) power (power (striving)), so that first of all we mean by (with) it the naked will to (for, of) self-preservation as a not further reducible magnitude which determinatively (constitutively) belongs to the constitution (state, texture) of all individual or collective subjects. Contrary to the impression which language suggests, self-preservation is not a static or passive state (situation) at all; it always takes place (is always carried out) within (inside) a variable (changeable, mutable), therefore (consequently) potentially dangerous situation (conjuncture) and demands (requires) a permanent physical and social metabolism (Stoffwechsel), if one may express it thus (so, in this way). Particularly out of consideration for the endeavour at (for, of) self-preservation of other existences or subjects, self-preservation must be multiplied (intensified, increased) and become self-intensification(increasing) (Selbststeigerung) in order for (should) preserving (perservation) itself to be made at all possible. Power is therefore successful self-preservation by means of such a self-intensification(increasing) which is able to (can) safeguard (protect) and (or) possibly improve the relative position of a particular power bearer (holder) vis-à-vis others (potentially) competing with it.

This definition of power fully and wholly applies (is fully and wholly valid, holds absolutely true) also to (in) the area (field, sector) of the ideational (ideational magnitudes), in that area in which self-preservation of individual or collective subjects is lived through (experienced) and practised as representation and imposition (carrying (pushing) through) of certain theoretical perceptions (views) (als Vertretung und Durchsetzung von bestimmten theoretischen Auffassungen erlebt und praktiziert wird),

in which consequently (therefore) the struggles necessary for self-preservation are conducted (held) through theories and arguments - during which the identity of the fighting (contending) subjects is bound (tied, connected) to the possession and propagation of theoretical positions and "truths", so that the endangering of each and every respective represented (particular) theoretical position or "truth" is perceived as an immediate (direct) threat against the identity of the corresponding (particular) subject. Just as society in magno can be understood as a sum of individual and collective subjects (Wie die Gesellschaft in magno als Summe von individuellen und kollektiven Subjekten begriffen werden kann) which for the safeguarding (protection) of their own self-preservation through (by means of) self-intensification (increasing) are grouped (form groups) in accordance with the distinction (differentiation) between (of) friend and foe (enemy) and behave accordingly (correspondingly) (gemäß der Unterscheidung von Freund und Feind gruppieren und dementsprechend verhalten), so too the small society of scientists and theoreticians can be (re)presented as an ensemble of specifically gifted (talented) and educated (trained) subjects, which (who) as members of society in magno or as bearers (carriers, vehicles) of anthropologically (pre-)given properties (qualities, characteristics) and ways (modes) of acting (action) (als Träger von anthropologisch vorgegebenen Eigenschaften und Handlungsweisen), are grouped (form groups) and behave in accordance with the same points of view (criteria) as to their essence (texture).

This ascertainment of the undiminished continuing (further) effect of general basic (fundamental) human situations and basic human ways (modes) of acting (action) in the area (field, sector) of the ideational (ideational magnitudes), as well as in the particular theoretical-scientific

area (domain), is not to be confused with the now (in the meantime) familiar (accustomed) sociological pointing out of the influence of social-political forces or tendencies on intellectual(mental)-spiritual-scientific (efforts in respect of the human sciences) or natural(physical)-scientific efforts (undertakings, ventures) (efforts of the natural (physical) sciences or of the humanities) (geistes- oder naturwissenschaftliche Bemühungen). Such an influence cannot in general (generally) be disputed (denied), but (however) even if its working out (analysis) is carried out (occurs, takes place, done) properly (rightly, correctly) and does not succumb to (speak the word of) vulgar sociology, yet again the specific feature (characteristic) of the ideational (the area (field) of ideational magnitudes) cannot be apprehended (grasped), and indeed of the (in relation to) the theoretical-scientific area (field, domain) (of its theoretical-scientific sector). It is true that the grouping (group formation) of the subjects in this area (field, domain) sometimes corresponds (is in keeping) grosso modo with the wider social-political area (field, realm); the question however is whether this correspondence touches (on) or even encompasses (contains) the specific feature (characteristic) of the theoretical-scientific area (field, domain) as well, whether, in other words, the active therein subjects realise the (afore)mentioned correspondence not only as social subjects, which they are anyway, but also as theoretical-scientific subjects which as such act and react in specific ways. - Conversely, however, the impossibility of deriving (deducing) the specific instruments and specific means of thought (thought means) (the specific conceptual and intellectual phenomena) of the theoretical-scientific domain from the dominant extra-scientific currents that are transiently (temporarily) in it (the theoretical-scientific area (domain)) (das spezifische Instrumentarium und die spezifischen Denkmittel des theoretisch-wissenschaftlichen Bereichs aus in ihm

vorübergehend herrschenden außerwissenschaftlichen Strömungen abzuleiten), does *not* mean that these instruments and these means of thought (these conceptual and intellectual phenomena) are shaped (formed, moulded) to one side of ((there) away from) the mechanics and the dynamics of the striving for power (power striving) of concrete subjects (abseits der Mechanik und der Dynamik des Machtstrebens von konkreten Subjekten gestalten). We must here distinguish (It is to be distinguished here) between the *content-related(filled) (substantive) (inhaltlichen)* social-political and ideological influence which is bound (tied, connected) to time and place (e.g. the rejection of causality (determinism) or materialism on the part of a natural (physical) scientist out of (for) world-theoretical(view, graphic, representative, illustrational) reasons (on world-theoretical grounds) and in agreement with certain extra-scientific currents), and the *forms (Formen)*, in which the striving for power (power striving) unfolds (takes place) in the theoretical-scientific area (field, domain) and which are largely (to a great extent, in the main) independent of each and every respective influence of socially determined (conditioned) content-related(filled) (substantive) tendencies (factors). Theory and science are therefore not social in the sense that their specific element (feature, characteristic) can be directly deduced (derived) from the respective "social" factors, that is, extra-theoretical or extra-scientific factors, on each and every occasion, but rather in the sense that in them (theory and science) the same morphological (form-related, formal) rules of striving for self-preservation and striving for power prevail (take the lead), which equally take effect in (the) other areas (fields) of the social (social areas (fields)), therefore also in the area (field) of the ideational (ideational magnitudes). Their (Theory's and science's) specific element constitutes the resultant of the struggle between (with regard to them (theory and science)) gifted (talented) and

learned (cultured) subjects which make up (constitute) a particular society and deal with particular questions (problems) - not the simple reflection of the social-political and ideological correlation of forces in society in magno (und keine einfache Widerspiegelung der sozialpolitischen und ideologischen Kräfteverhältnisse in der Gesellschaft in magno), nor the simple translation of the same (society) into the language of the theoretical-scientific domain, notwithstanding how much such a reflection or translation constitutes not a rare phenomenon and may shape (form, mould, characterise) the world-theoretically extrapolated content of the aforementioned domain.

Self-preservation and striving for power (power-striving) in the area (field) of the ideational (ideational magnitudes), as well as in the narrower theoretical-scientific area (field), necessarily take place within the framework (in the context) of a decision and through a decision. By decision we do not here understand (mean) the conscious choice between (pre-)given alternatives, as language usage wants it (in accordance with established language usage), but a much more comprehensive act or process, inside of which alternatives (also) first come into being (are formulated). De-cision (de-cisio) (Ent-scheidung (de-cisio)) is then one such partly conscious and partly unconscious executing (executive, carrying out) act or process of segregation (separation) during (through) which an organised and hierarchised world-image comes about which guarantees the necessary (requisite) for self-preservation ability at orientation and serves striving for power (power striving) through (by way of) the granting (giving) of a fixed (steady) identity (ist demnach ein sich teils bewußt, teils unbewußt vollziehender Absonderungsakt oder -vorgang, bei dem ein organisiertes und hierarchisiertes Weltbild zustande kommt, welches die zur Selbsterhaltung erforderliche

Orientierungsfähigkeit garantiert und dem Machtstreben durch die Gewährung einer festen Identität dient). Separated in the process is that which might be useful for the formation of the world image and the identity, that is for self-preservation and striving for self-intensification(increasing), from whatever seems not suitable (unsuitable, useless or harmful) for them (self-preservation and striving for self-intensification, these ends (goals)). The subject, in the course of acquiring or winning (securing, gaining, achieving) an identity, is freed (liberated, set free) from the vertiginous (confused, giddy) plethora (fullness, superabundance) of impressions which flood (inundate, deluge) it from all sides and as such (alone, of themselves) do not give (result in, amount to) meaning, while replacing, through (by means of) (the) cutting (of) the Gordian knot, this chaotic pre-world (precursory (before, preliminary) world) (Vorwelt) with a well-ordered (orderly) world and at the same time reserving for itself a meaningful place (position) within the well-ordered world - by connecting, in other words, the world's meaning with its own place in the world. The substitution of the chaotic pre-world with the well-ordered world, of orientationless existence with the (a) fixed (steady) identity, does not take place only by means of the elimination of the useless and the irrelevant (what is useless and what is irrelevant), but just as much by means of the purposeful (expedient, end(goal)-oriented) structuring or hierarchisation of the materials (zweckmäßigen Strukturierung bzw. Hierachisierung der Materialien) which were taken (gathered) from the pre-world (precursory (before, preliminary) world). From this hierarchisation which is based on an explicit or implicit evaluation (assessment), the meaning of the emerging (being formed) world and simultaneously the ends (goals) being set of the subject result (arise), whose (the subject's) identity is connected with the assumed

(supposed) meaning of this world and consequently brings to light (makes known) who are its friends and who are its foes (enemies).

So the world image is the work of the subject, it is determined by the orientation needs, self-preservation needs and power needs of the subject and consequently is subjective. However it must (is obliged to) make (raise) a *claim* (for itself) to objectivity (einen *Anspruch* auf Objektivität erheben), and indeed principally for three reasons: firstly, the assumption of the objectivity of the world image takes effect on the subject of the decision, out of (from) which the world image came, in so far as it is relieved and encouraged as it puts (sets) aside (removes, sidelines) doubt about the correctness of the decision and with it (the doubt) the uncertainties and the difficulties of orientation. Secondly, this same assumption satisfies (fulfils) a demand which society in principle makes on all its members in order to ensure (safeguard) its own cohesion. The fact acknowledged by all (The generally recognised (acknowledged) fact) that this cohesion can only be achieved through the curbing (restraining, reining) of subjective arbitrariness (*Willkür*) and (the) obeying (of) (compliance with) the rules or norms generally in force, takes in the area (field) of the ideational (ideational magnitudes) the form of the conviction of the superiority of the objective vis-à-vis merely subjective notions and insights; that is why inside of (within) an organised society a power claim (ein *Machtanspruch*), which of its nature (essence) is only made (raised) in accordance with (by) a certain subject, that is (and consequently) it can only be subjective, is most likely to be imposed (carried (pushed) through) when it is portrayed (it appears) not as a monstrous invention (fantasy, product) of subjective motivating forces and aims (goals) but, on the contrary, as a demand which results (arises) from the knowledge of objectively given interrelations (connections, correlations) and whose

fulfilment should benefit the common good. Thirdly, the subjective world image can and must exactly, because of that, claim objectivity for itself (on behalf of itself), because only based on the criteria provided (supplied) by it (itself), what is to be regarded as objective and what as subjective is defined; the assertion (claim) of one's own objectivity precedes, in every world image, its individual (separate) content-related (filled) (substantive) statements (opinions, pronouncements, assertions) (einzelnen inhaltlichen Aussagen) about the world, these statements (opinions, pronouncements, assertions) are based on it (the (asserted) objectivity).

As we said, the subject's identity is shaped (formed, moulded) in the act or process of the de-cision which for its part (in turn) is fused (merged) with striving for self-preservation and striving for self-intensification (increasing) or striving for power. Mere (Simple) existence is changed (transformed) into an identity able for (capable of) orientation, and consequently able for (capable of) life, to the extent that the chaotic pre-world (precursory (before, preliminary) world), partly through the separation and the elimination of the irrelevant (elements) and partly through the hierarchisation of the relevant (elements), is changed (transformed) into a well-ordered (orderly) world. Whoever holds (occupies) a meaningful place inside (of) (within) a world image with more or less distinct (clear, firm) outlines (contours) possesses identity. Identity is principally recognisable in the quick(er) (faster) and (more) precise ability at (capacity for) orientation, action and reaction. This ability (capacity) however is always of use for (always serves) the overcoming of a foe (enemy) and it develops in connection (interrelation) with the existential desideratum (Desideratum) of being able to overcome foes (enemies). In every world image the foe (enemy) appears in the form

of the lower tiers (grades, levels, stages) (unteren Stufen) of its (the world image's) hierarchy of values or in the form of whatever is declared (proclaimed) anti-value (demerit) (Umwert). A foe (enemy) is everything (all) that engenders disturbing (making uncertain) disorientation and consequently danger, everything that stands in the way of orientation in the positive sense and can only be taken into account negatively (in a negative sense) during striving for (effort at) orientation. The foe (enemy) accordingly must not be (is not necessarily) a concrete person, he can just as well be represented by a certain idea, whose prevalence (carrying (pushing) through) threatens to demolish (bring down) the world image and thus the corresponding identity - although actually (in reality), not the idea in itself, but in fact the inevitable active or potential being put into contact with concrete persons brings into being the feeling (sense) of uncertainty and threat (menace, being threatened) or enmity.

Just as the foe (enemy) does not have to be (is not necessarily) a concrete person, so too the subject, whose identity is partly founded (established) and partly safeguarded (protected) or legitimised, does not have to personally appear itself in the world image. The identity's meaning-creating (meaningful) bond (binding, tie) (sinnstiftende Bindung) with the world image can assume (take on, adopt) much more indirect forms than those it assumes (takes on, adopts) in religious world images we for instance encounter where the place of every subject is expressly (explicitly) determined (fixed) in accordance with its assumed (supposed) value (merit) or anti-value (demerit). In the new-times (modern) mathematical-natural(physical)-scientific world image, which already out of (for, because of) polemical reasons had to eliminate every (open) anthropomorphism, the subject of him who designs (devises) (the subject as creator of) the world image first of all completely recedes into the

background, and the joining (connection) of his identity with the world image, which arises (results, ensues) from his theoretical-scientific decision, becomes indirect and symbolic. The content of the theory and the hierarchisation of the ideational values in it (inside of it (the theory)) in other words constitute a symbolic summary (synopsis) of the total (overall) striving for orientation and striving for power, that is, a symbolic summary of all the positionings (stances) (Stellungnahmen) of the theoretical-scientific subject vis-à-vis friends and foes (enemies); even though this subject does not at all appear (surface as) the same in the theory, nevertheless, it announces (makes known) its identity in the framework of the formulation of the theory in *that* it arises (emerges, comes into view) vis-à-vis other subjects as a representative of *this* theory or *this* world image, and it takes (occupies) the corresponding place in the community of fellow scientists. Orientation and an increase (growth) in power (power growth), that is, the formation and successful activation (actuation) of the subject's identity, are ensured (safeguarded) in this case not for instance because the subject makes to measure a world image which contains an explicit naming of friends and foes (enemies) as well as concrete normative instructions but rather because the subject, by outlining (sketching) a (mathematical or physical) theory, discovers the adequate (matching) for him (it) way (manner, mode) to find his (its) way (place) in each and every respective relevant society of theoreticians (in der jeweils relevanten Theoretiker-Gesellschaft), to take a position vis-à-vis its (the society's) burning questions and thus vis-à-vis his (the subject's, its) fellow scientists.

Theory formation (Die Theoriebildung) as an act or process of the decision in our sense is therefore fused (merged) with the constituting (constitution) of the identity of the theoretician *as* theoretician. This

person (the theoretician) possesses an identity to the extent that he can orientate himself in the area (field, domain) of theory and make (raise) power claims, that is, he is able to define himself in relation to other theoreticians (as representatives of other positions and as bearers of the corresponding identities). The fusion (blending, merger) of the constituting (constitution) of the identity with theory formation becomes clear if on more careful (closer) inspection one ascertains that every position comes into being as a counterposition or, what comes to the same thing (amounts to the same), as an attempt (effort) at mediation between extremely (radically) opposed (contrasting) positions (daß jede Position als Gegenposition oder, was auf dasselbe hinausläuft, als Vermittlungsversuch zwischen extrem entgegengesetzten Positionen entsteht). The theoretical de-cision is therefore a form of praxis (practice, acting) (eine Form der Praxis) in so far as it contains or implies a positive or negative positioning vis-à-vis the immediate world - not merely (simply) vis-à-vis the world as object of theoretical knowing (knowledge) (als Gegenstand theoretischen Erkennens) but over and above that (furthermore, in addition) vis-à-vis the world of theoretical knowing (knowledge) and with it vis-à-vis the world of the theoretically knowing (theoretical knowing people) as the in practice relevant society. The theoretician or the scientist may have the impression that he researches (explores) the extra-human world or pure logical structures (rein logische Strukturen), however this world or these structures are first of all (in fact) mediated through each and every respective relevant society, and their researching (exploration, being researched) amounts to the researching (exploration) of the possibilities of acquiring a fixed (settled) place, i.e. identity and power, in this society. Exactly because of that (this), the theoretician is only then certain about the truth of his findings (results) if he can dismiss, "ruin (finish, destroy)" all counterpositions

argumentatively (wenn er alle Gegenpositionen argumentativ abtun „erledigen“ kann); before this highest criterion of truth inside the in practice relevant society the direct comparison between the finding (result) and the object of knowing (knowledge) (cognitive object) - assuming (supposing) it (the comparison) is even (at all) possible - recedes into the background. A feeling (sense) of power (Machtgefühl) is here the feeling (sense) that one's own identity as theoretician is invulnerable, since every counterposition can be refuted (disproved). That is why the interweaving (interconnection) (Verflechtung) of knowledge and power is not to be understood only (merely) in accordance with Francis Bacon, that knowledge *gives* power, but just as much then that knowledge *is* power - a condensed (compressed) expression of the power claim of a certain identity.

### III. Power, decision and theory formation in natural (physical) science (Macht, Entscheidung und Theoriebildung in der Naturwissenschaft)

The outlined (portrayed) fundamental (basic, essential) features (characteristics) (Grundzüge) and mechanisms of the act or process of the de-cision, in which power claims in the area (field) of the ideational (ideational magnitudes) manifest themselves (are made known) and through which they are satisfied, also become noticeable in the example of new-times (modern) natural (physical) science, which for a long time has understood itself as the only possible and provable (demonstrable) objective knowing (knowledge). In the framework of the historicisation of the natural (physical) sciences, as it was undertaken in recent (during

the last few) decades, the role of public opinion and the outer (external) correlation (constellation) of forces in the society of scientists was pointed out (underlined, stressed) a number of times with regard to (for) the formation and prevalence (carrying (pushing) through) of theories. But in (respect of) this sociological factor, whose effect incidentally is by and large indisputable, only one aspect of the problem of power appears (is visible) in this special (particular) area (field) of the ideational (ideational magnitudes); conversely (on the contrary), that deeper anthropological-epistemological(-knowledge-theoretical) aspect (anthropologisch-erkenntnistheoretische Aspekt) which lies (is situated (located) in, is) in the nature (Natur) of the act or process of the de-cision itself, is overlooked - and here it must be noted (observed) that the sociological aspect constitutes a specific (peculiar) condensation (compression), modification and, at the same time, extrapolation of the anthropological aspect taking place in a concrete historical situation (conjuncture), which for its part (in turn) (the anthropological aspect) cannot be activated other than in a certain historical-social form (shape) (Gestalt). In any case (Anyway), new-times (modern) natural (physical) science was constituted as a mathematically proceeding discipline (discipline using mathematical methods) in a large-scale act or process of the de-cision through (by means of) the elimination of the irrelevant (for it) (by eliminating whatever seemed irrelevant (to it)): it eliminated that which (whatever) was relevant in the foe's (enemy's) world image, namely the variety of form (multiformity) of the perceptible qualities as well as the qualitative peculiarity of the substances, and it quantified all the physical magnitudes and events (happenings) (lifted out of there physical happenings (things that happen)) (Geschehen); in this way the mathematical apprehension (grasping) (Erfassung) of nature as well as the power precedence (predominance) of all those who wished to

contemplate (comprehend) and treat (handle, deal with) nature in this way, that is, to connect their own identity as theoreticians with such a contemplation (comprehension) or treatment (handling) of (dealing with) nature, was founded (established).

The elimination of the irrelevant (elements) (des Irrelevanten) and the interrelated formation of the outline (contour) of the world image through (by means of) a de-cision or decisionistic segregation (separation) (dezisionistische Absonderung) had nevertheless no less of an effect on both of those procedures (methods) which were to found (establish) the particular claim to objectivity (objectivity claim) of new-times (modern) natural (physical) science, namely: observation and the experiment (Beobachtung und Experiment). What is really self-evident has been noted (registered, pointed out) for a long time, that namely no observation can be made outside of a certain subjective perspective (keine Beobachtung außerhalb einer bestimmten subjektiven Perspektive vorgenommen werden kann), that the ascertainment of the facts (die Tatsachenfeststellung) implies or presupposes a certain theory, which hides exactly in the subjective perspective, and that accordingly the ascertainment (attestation) of the facts is identical to an at least latent interpretation (Interpretation) of these same facts; under these circumstances the attempt (effort) at drawing clear dividing lines between terms of observation and pure theoretical terms, between a context of discovery and a context of justification (a rationale) (zwischen einem Entdeckungs- und einem Rechtfertigungszusammenhang), amounts to an endeavour (effort) at squaring the circle. Even in regard to observing (observation) in the narrowest sense, namely simple attentive looking, one can notice that to the extent that objects are perceived as forms (shapes), elements slip into observation which are reduced to the

observer's individually or socially shaped (determined) thought style and style of perception (thought and perception style) (geprägten Denk- und Wahrnehmungsstil); something similar can be said about the repercussions of the linguistic (language) formulation of observations, especially (particularly) since (as) observations can become relevant (obtain meaning (significance)) for scientific research (für die wissenschaftliche Forschung relevant werden) only in the guise of language (im Gewand der Sprache).<sup>6</sup> This interweaving (interconnection) of observation and subjective perspective, that is, of a theory or of an interpretation (Diese Verflechtung von Beobachtung und subjektiver Perspektive bzw. Theorie oder Interpretation), which can be ascertained at all the tiers (grades, levels, stages) and in all the forms of observation, does not now constitute anything other than an elementary decision (eine elementare Entscheidung) in our sense, since every perspective or theory is characterised exactly by the fact that it undertakes a separation between (the) irrelevant (elements) and (the) relevant (elements) (eine Trennung zwischen Irrelevantem und Relevantem vornimmt), that it puts something in a framework and at the same time excludes something from this same framework, that, in short, it eliminates quite a few things and hierarchises the rest (remaining things). But the experiment is also based on the isolation and the corresponding processing of whatever is held to be (thought of as, considered) relevant (Auf der Isolierung und der

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<sup>6</sup> While the perspectivity of all knowledge does not preclude the possibility of reality's description and explanation (or "analysis"), also, symbolism, including language, is nothing more than a necessary but not sufficient aspect of the social relation (and of social action). This means that through the social relation and social action a core of agreed meaning applies to many things within a society, albeit to varying degrees of agreement, e.g. a book, a tree, a U.F.O. etc. (i.e. without ever denying the varying degrees of interpretation of things, concepts, affairs etc.), and that any theoretical fixation on language or communication or the system etc. more often than not constitutes an ideological weapon in polemics against opponents in the relevant society of theoreticians, and has little, if anything, to do with accurate knowledge of reality (to the extent it is possible), which, as we know from observation, experience and the application of logic to observation and experience, is obviously far richer, multi-dimensional, varied and more complicated than being mere language, communication or the system etc.. See *Das Politische und der Mensch* for further discussion in relation to these matters.

entsprechenden Bearbeitung des für relevant Gehaltene(n) beruht aber auch das Experiment). The express ambition of every experiment is one such shielding of the research(ing) (examining, investigative) process (eine solche Abschirmung des zu untersuchenden Vorganges) so that the environment (outside (outer, external) world) is excluded and cannot influence it (the researching (this) process) (daß die Umwelt ausgeschaltet wird und ihn nicht mehr beeinflussen kann); the (technical) equipment thus creates an artificial world (die Apparatur schafft somit eine künstliche Welt), a world which is seen only in each and every respective relevant perspective, and thereby it subjects (subjugates) the world to a certain way of looking at things (consideration, observation) (einer bestimmten Betrachtungsweise) in which again the concrete identity of a subject comes to be in force (dominate). Hence the experiment implies no less than (the) observation a certain interpretation of phenomena, a certain theory. On the basis of theory, manufacturing (making) and use of instruments becomes possible (Aufgrund der Theorie werden Herstellung und Verwendung der Instrumente möglich), on the basis of theoretical assumptions the experiment itself is carried out (conducted) and in the course of it this or that correction is made, which would otherwise (in (of) itself) be meaningless: an experiment is regarded, after all, as successful if it effortlessly fulfils the theoretical expectations connected with it.

Power claims manifest themselves (are made known) even more emphatically at the higher tier (grade, level, stage) of the natural(physical)-scientific effort (undertaking), at the tier (grade, level, stage) of theoretical generalisation (Machtansprüche melden sich noch nachdrücklicher auf der höheren Stufe naturwissenschaftlichen Bemühens an, auf der Stufe theoretischer Verallgemeinerung). This generalisation of course is already hiding in (the) observation and the experiment; however

in its (the generalisation's) more abstract and most abstract forms it creates much broader (wider) spaces inside of which the identity of the theoretician can unfold more freely and be expressed most candidly, while confirming its (the identity of the theoretician's) power and while striving after more power. The total (complete, totalitarian) power claim (Der totale Machtanspruch) in the area (field, domain) of theory must appear in this way as a claim to universality (universality claim) or a claim to generalisation with universal validity. The formulation (putting forward) of ideational magnitudes (Die Aufstellung von ideellen Größen) which, as it were, stand (are) behind experience (Empirie), that is, they transcend the same (experience) and at the same time want (intend) to make it understandable, is not a phenomenon happening to us exclusively in the natural (physical) sciences; it fulfils the same function everywhere because precisely by way of this formulation (putting forward) each and every respective interested subject can articulate as clearly and freely as possible its own de-cisions, its perceptions (views) and its wishes (desires), without being exposed to the direct pressure of empirical data, especially (as they are presented) in other subjects' interpretation; here, and only here, its (the subject's) own interpretations and axioms (Axiome) exclusively dominate (rule). Because different (various), and in themselves with equal rights, axiomatic systems can be erected on the basis of the same or roughly the same basis (basic) propositions, (and) such axiomatic systems of course can connect the observable facts (or more precisely those held to be (thought of as, considered) the central part thereof) (welche zwar die beobachtbaren Tatsachen (oder genauer den für zentral gehaltenen Teil davon)) to a whole, yet they are not directly deducible (derivable) from these (facts) but rather constitute ideational constructs (ideelle Konstrukte) from which the phenomena (facts) (die Phänomene) themselves can be deduced (derived). These

constructs again come about (are composed) by way of shortenings (abridgements), simplifications and compromises at a number of (multiple) levels which are undertaken in view of the economical (sparing, not wasteful) necessities (necessities pertaining to economy of thought), conventional and not least (of all) polemical necessities, so that already for this reason in this context there may not be talk of any *adequatio rei et intellectus*,<sup>7</sup> of any apprehension (grasping) of purely objective facts (data) to the exclusion of (beyond) subjective points of view and power claims.

The uppermost criterion here is applicability rather than the truth (Oberstes Kriterium ist hier eher die Anwendbarkeit als die Wahrheit) - although the applicability of the axioms to the facts must be passed off most of the time as apprehension (grasping) of their (the facts') essence. At any rate, we must strictly distinguish between the empirical relevance and the empirical verifiability of an axiomatic theory (Zwischen empirischer Relevanz und empirischer Nachprüfbarkeit einer axiomatischen Theorie muß auf jeden Fall streng unterschieden werden); so that the transition from the symbolic system or from abstract mathematical-logical calculus to experience (vom abstrakten mathematisch-logischen Kalkül zur Empirie) is in general possible, certain mediating rules, which only make mathematical-logical symbolism open to an empirical interpretation, are, for that matter, needed. And even if the experimental findings (results) prevent (hinder) the problem-free (effortless) application of symbolism to experience, the experiment as a rule only shows *that* the symbolism (symbols) and experience do not match (suit) each other (go together), but not *what* must be rejected and replaced in the symbolism. The choice (selection) as regards this crucial

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<sup>7</sup> The intellect (of the knower) must be adequate to the thing (known).

question (matter) always depends on the decision of the theoretical-scientific subject and on the power claim which is activated in (within) it.

The use of models of a smaller scale (range) already bears witness to this state of affairs (these facts of the case). However the difference (variety) as to the theoretical power claim generates (engenders) different (various) levels of generalisation so that above the models are hypotheses and above the hypotheses axiomatically founded (justified) theories. The broader the generalisation's range, the less (smaller) the empirical content and the empirical verifiability! (Je größer der Umfang der Verallgemeinerung, desto kleiner der empirische Gehalt und die empirische Nachprüfbarkeit!). The price to be paid for the achievement (attainment) of logical coherence (unity) at a higher level of generalisation is the synoptic (condensed) dealing with (treatment), or the impoverishment (emaciation) of, the empirical content at a lower level (Der Preis für die Erreichung logischer Geschlossenheit auf einer höheren Verallgemeinerungsebene ist die synoptische Behandlung oder die Verarmung des empirischen Gehalts einer niederen). The aspect of power (power aspect) of theory (Der Machtaspekt der Theorie) is visible (becomes clear) exactly in that theory imbues (soaks) experience with its interpretations, it shortens (abridges) and dilutes (thins (waters) down) experience or even simply leaves a part of experience (the same part) unnoticed, which from another point of view could be held to be (thought of as, considered) significant or decisive. This treatment (handling, dealing with) of experience is not an evil, which would (perhaps) be remedied through (by) advances in knowledge and through more "objectivity", but it is the constitutive feature (characteristic) of every theory. If theory can apprehend (grasp) experience only because of this, that it partly must transcend, partly must sift through, partly shorten

(abridge) and partly dilute (thin (water) down) the same (experience) - in short: interpret the same (experience), (so, then) the reason for this lies in that the theory arises (springs) from a power claim and embodies a power claim. The character of the de-cision of the dealing with (treatment) of (when dealing with) experience also goes with (accompanies) the thirst for generalisation and universality, the broadest possible generalisation as highest tier (grade, level, stage) of the theoretical effort (attempt) just constitutes the other side and at the same time the high point (culmination) of the selective-abstractive(abstracting) apprehension (grasping) of experience: through this selective-abstractive(abstracting) apprehension (grasping) only or principally whatever is necessary for the orientation of the theoretical-scientific subject in the area (field) of theory is retained (held) from experience, while the generalisation ensures (guarantees) that this same orientation is given the most objective character possible (as far as possible a more objective character), that therefore the subjective de-cision is objectified (objectivised) (die subjektive Ent-scheidung objektiviert werden), it can be presented as objective knowing (knowledge) or even as an objective command.

Through the endeavour (effort) to make a comprehensive (encompassing) whole or to summarise (condense) the whole in (into) a theory, the theoretician's power claim reaches the non plus ultra (not more beyond; the extreme or perfect point or state) (Non plus ultra). The inclination (tendency) towards the establishment (setting up) of a logically cohesive (unified) and at the same time comprehensive (encompassing) whole seems first of all to be inherent in (calculated (factored) into) the nature (character) (Beschaffenheit) of theory as such. And in fact: if the statements (opinions, pronouncements, assertions) about (regarding) empirical data cannot be formulated other than in the language of a

certain theory, (so) then they can actually be made understandable only if clarity dominates (rules) over the concepts of the theory in question. Yet the concepts and the propositions of a theory achieve (gain) clarity through their concatenation (interconnection) (Verkettung) with one another (each other), through the way they are put in order in the theory, and through the place they occupy (take) in the whole (, i.e. inside) of the theory, (and it (the theory)) confers on (gives to, conferring on) them a specific meaning and a specific function; the concepts, the basis (basic) propositions and the rest of the (remaining) propositions (Begriffe, Basis- und restliche Sätze) eventually become clear (distinct) in light of the highest axioms of the theory, of course only in this light do the facts become facts, while the relation of a concept or of a proposition with (towards) a fact is eo ipso a relation with (towards) another concept or proposition. The evaluation (assessment) of a fact, of a concept or of a proposition inside of (within) a theory in this way comes (amounts) to an evaluation (appraisal) of the whole of the theory or of theory as a whole.

Nonetheless, this does not at all (in the least) (by no means) mean(s) that the construction of the theoretical whole takes place just for the sake of the explanation of the facts from which one (the theoretician) sets forth (starts out) and which one (the theoretician) constantly keeps in mind. Rather, the outlines (contours) of the whole from the beginning (outset) linger (hover) in the background and give (grant, provide) to those subjects, which in the sector (area, domain) of theory want to make (raise) total (complete, totalitarian) power claims, the ideational unfolding space (room for unfolding) (ideellen Entfaltungsraum) which is then increasingly concretised in the more thorough contradistinction (confrontation, altercation) with friends and foes (enemies) (in der näheren Auseinandersetzung mit Freund und Feind zunehmend

konkretisiert wird). That is why the observation of individual (separate) phenomena is undertaken, consciously or unconsciously, with one eye on the needs of the establishment (setting up) of a theoretical whole, induction becomes a disguised deduction (die Induktion wird zu einer verkleideten Deduktion). The theoretical undertaking (effort) that has totality as its aim (The on totality raised (lifted up) theoretical undertaking) does not start from (with) individual (separate) problems (Nicht bei einzelnen Problemen fängt das auf Totalität abhende theoretische Bemühen an), but from the (often implicit) general, and of course world-theoretical(view, graphic, representative, illustrational) framework (ja weltanschaulichen Rahmen), inside of which incidentally problems can first be (are first) constituted as concrete problems: we know of the closest connection between ultimate (final) questions and individual (separate) problems in the classics of natural (physical) science like Descartes and Galilei, and we also know that the hierarchical structure of the ancient-Christian cosmos (universe) (Kosmos) was first of all demolished (brought down) through (thanks to) monistic Renaissance natural philosophy (philosophy of nature) which laid the world-theoretical(view, graphic, representative, illustrational) foundation stone of new-times (modern) natural (physical) science and (has) paved the way for (stamped) its (natural science's) development (progress, advance) as to its individual (separate) parts.

In respect of all of that, the interweaving (interconnection) of natural(physical)-scientific research at all levels, especially (above all) at the higher and highest (levels), and the world-theoretical(view, graphic, representative, illustrational) de-cision along (together) with the (with it) interrelated (belonging) power claim is revealed (becomes clear). Something other than that would not be, for that reason alone, possible

because whatever in (from) a scientific-rationalistic perspective appears as an immanent need or a finding (result) of the logic of research is formed only within the act or process of the de-cision and as an articulation of a power claim in the area (field, domain) of theory. As a power claim, a general theory must always state (pronounce) something more than whatever it can prove (demonstrate); it always goes beyond (further than) the known (familiar) phenomena and even known (familiar) "laws": because it *is* the connection of phenomena and laws with a comprehensive (encompassing) whole. Only through the formulation (putting forward) (theoretical establishing (setting up)) of such a whole can ultimate (final) questions (letzte Fragen) be answered, and whoever wants to hold one's own in polemics (in der Polemik) over the long run (in the long term) must prove his ability at answering ultimate (final) questions, that is, at granting (giving) secure (steady) orientation (also zur *Gewährung sicherer Orientierung*), in relation to which he of course holds (reserves) for himself the monopoly of the decision over which are the "true" ultimate (final) questions and must degrade (downgrade) the foe's (enemy's) ultimate (final) questions to pseudo (false, sham, mock) questions. For these reasons the inclination (yearning) towards the establishing (setting up) of a whole can become so strong that for the achievement (attainment) of this end (goal), means of thought (thought means) must be summoned (*daß zur Erreichung dieses Zweckes Denkmittel aufgeboden werden müssen*) which in (of) themselves cannot offer (give) any guarantee of truth. The use of conclusions (findings) per analogiam (by analogy) for the exploration (deciphering) of inadequately (insufficiently) known (familiar) fields (areas, domains) or for the filling of gaps inside of theoretical constructions has been noticed many a time already through (by means of) its precarious character. However things are not much better also with regard to logical coherence (unity) or as

regards simplicity (Aber auch um die logische Geschlossenheit oder um die Einfachheit), which are frequently considered (looked at) as the two most solid pillars (props) of a theory with a claim to comprehensiveness (universality) (die häufig als die beiden tragfähigsten Säulen einer Theorie mit Umfassenheitsanspruch betrachtet werden). Because a false and a true whole can be set up (built) on the basis of the same formal-logical rules (formallogischen Regeln), simplicity, to which often precedence over partial findings (ascertainments, results) is given (conceded) for aesthetic or heuristic reasons, can for its part achieve (attain) an agreement with empirical observations only as a result of (through) a summary dealing with (treatment) (nur infolge einer summarischen Behandlung), i.e. (as a result) of a shortening (abridgement) and dilution (thinning (watering) down) of these latter (empirical observations). Simplicity only seemingly (on the surface) (scheinbar) constitutes a command of the economy of thought as the conventionalists (Konventionalisten) thought (believed). In the demand for simplicity a power claim in reality is declared, which wants to restore a direct and clear (obvious) relation between the uppermost (highest) principles to which every relevant subject binds (ties, connects) his (its) identity as a theoretician and the remotest corners of the real (world) (what is real) (des Realen); the direct, and consequently simple, subjection (subjugation) of the part to the whole, of the particular empirical (element, dimension) to the general theoretical (element, dimension) (des besonderen Empirischen unter das allgemeine Theoretische) puts (sets) aside (removes, sidelines) all the middle (intermediate) tiers (grades, levels, stages), all the attempts (efforts) at disorienting part(ial) interpretations and lets the One great idea dominate (rule) alone, under whose sign (aegis) the whole is (stands) and in whose background stands the powerful (mighty) shadow (mächtige Schatten) of

its own originator (creator). This power character (Machtcharakter) of the ideal of simplicity is shown (revealed) both by the variety (diversity) or the arbitrariness of its (the ideal's) interpretations as well as the fact that great theories are actually multi-dimensional (and by the way, again for compelling polemical reasons), even though they must make (raise) a claim to "deeper" or "true" simplicity.

With reference to (By (Through) invoking) a method and (to) its strict application, de-cisions (Durch die Berufung auf eine Methode und auf deren strenge Anwendung suchen Ent-scheidungen) or power claims seek to be objectified in the area (field) of theory in which they show themselves, namely to be made out to be the inevitable result of a procedure (method, methodical procedure) which is immune to (from) subjective arbitrariness (nämlich als unumgängliches Ergebnis eines Verfahrens hinzustellen, das gegen subjektive Willkür immun ist). Nonetheless, the evidence of history (historical evidence) forbids (prohibits) us from restoring a necessary connection (relationship) between objectivity and method. Not only has the methodical ideal changed (transformed) from time to time, so that e.g. (for instance) a deductivism (ein Deduktivismus) (e.g. in the form of the methodological (methodical) primacy of hypotheses), not only in our days, was set against a classical inductivism (dem klassischen Induktivismus), but also method, which since earlier times was connected to the new-times (modern) natural (physical) science (then) coming into being (die sich mit der entstehenden neuzeitlichen Naturwissenschaft seit frühester Zeit verband), was initially (first of all) formed outside of this latter (natural science), and actually in connection (interrelation) with logical and rhetorical investigations (examinations), not with the experimental researching (investigation into, exploration) of nature. Its (Method's)

acceptance and application again presupposed content-related (filled) (substantive) convictions, e.g. the conviction with respect to the inner (internal) logic and law bindedness (determinism, law/rule-based necessity) of nature, as it (which) was pleaded (expressed, supported) in the polemic against the ancient-Christian perception (view) of the ontological inferiority of the sensual (material, perceptible) world (sinnlichen Welt). The joining (connection) of every method with content-related (filled) (substantive) positions or pre-decisions (precursory (before, preliminary) decisions) (Vorentscheidungen) leads for its part to the method having to confirm that content with which it had originally (initially) been connected.

Methodological polemics thus always have a direct or indirect *content-related* (filled) (substantive) (*inhaltlichen*) character (Methodologische Polemiken haben daher immer einen direkten oder indirekten *inhaltlichen* Charakter), here already the thing is fought for (contested), and not just access to it. The *ars inveniendi*<sup>8</sup> is basically an art of rationalisation (explanation, justification) (rationalising art), namely, it rationalises (explains, justifies) *ex post facto* (after the facts) those findings (results) at which the praxis of research (research practice) (die Forschungspraxis) arrives (reaches, comes) either eidetically (representationally) or by chance, and it lets the same (findings) present (appear) as a necessary or foreseeable result (outcome) of superior theoretical insight (*überlegener theoretischer Einsicht erscheinen*). The formulation (putting forward) of methodological (methodical) rules gives an (indirect) insight into the theoretical self-understanding of the theoreticians in question rather than fertile (fruitful) instructions (als eine fruchtbare Anweisung) for the praxis of research (research practice). Because even under optimal

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<sup>8</sup> "Art of invention", i.e. ascertaining truth through the use of mathematics in *mathesis universalis*.

conditions (unter optimalen Voraussetzungen) the answer to the question as to which methodical rule is to be applied in which concrete case (welche methodische Regel in welchem konkreten Fall anzuwenden ist) must be left to the researcher's judgement, and it is not rare for very different results to be obtained with reference to (by invoking) the same method.

#### IV. Truth and practical-technical applicability of theories (Wahrheit und praktisch-technische Anwendbarkeit von Theorien)

After the preceding (previous) analysis the question must be posed (asked) as to what extent the "objective truth" („objektive Wahrheit“) of physical theories (physikalischer Theorien) is proved (demonstrated) through (by, with) their practical-technical applicability, as one often hears. And first of all we must remind ourselves (it is reminded) that even until recently technology (technique, technics) had developed almost independent of natural (physical) science (die Technik bis noch vor kurzem fast unabhängig von der Naturwissenschaft) - still further (even more): through its practical achievements (results) it (technology) had given important (intense, strong) stimuli to natural (physical) science. Already in the 16th-17th century the theory of mechanics came into being following (from inside of) the by then known (familiar) technologies (techniques, technics), e.g. in the field of ballistics; with regard to the steam engine or Röntgen X-rays (Röntgenstrahlen) theoretical explanations were offered (provided, given) long after their invention and practical use, and in general only at a very late point in time (stage) could

the technological upturn (rise, ascent), which accompanied the tremendous advances of industry in the 19th and 20th century and took place (was brought about) with the simple practical procedure (method) of trial and error (trial and error process), be theoretically dealt with (brought under control) through (by) physical research (physikalische Forschung); this research first of all was confronted with the task of understanding, after all, that which (whatever) already was (constituted) proven (successful) praxis (practice) (was bereits bewährte Praxis war). Only for (since) the last few (in recent) decades has an extensive (far-reaching) interweaving (interconnection) of modern natural (physical) science and modern technology (technique, technics) (eine weitgehende Verflechtung von moderner Naturwissenschaft und moderner Technik) taken place, which gave rise to the impression that technology (technique, technics) is the result of the direct practical application of theoretical insights into (conceptions of) natural (physical) science and that invention does not constitute a coincidence but the quasi necessary result (conclusion) of systematic research. Yet now, between theoretical conclusions (results) and practical-technical application there is always a gap (distance) which must be bridged with an invention, and it renders (makes) the acceptance (facing) of imponderability (incalculability) and risks inevitable (und die Inkaufnahme von Unberechenbarkeiten und Risiken unumgänglich macht). In addition, the afore(mentioned) interweaving (interconnection) of science and technology (technique, technics) takes place (is carried out) in certain sectors (areas, fields, realms) where neither absolute verification nor theoretical hairsplitting (nitpicking, excessive subtleties) (absolute Verifikation oder theoretische Spitzfindigkeiten) nor theoretically unsuspecting (blind) practiciness is in demand (has a place). The newer development (Die neuere Entwicklung) (of the interweaving of science and technology) became in other words

possible because technology was scientised *and* natural (physical) science was technicised or at any rate was practised (carried on) with regard to (in view of) technology (technique, technics) (die Technologie verwissenschaftlicht und die Naturwissenschaft technisiert bzw. im Hinblick auf die Technik betrieben wurde), whereas both extremes of pure theory and pure techne (art, methods and skills of craftsmanship) (die beiden Extreme der puren Theorie und der puren Techne) were increasingly driven out (displaced, banished) to reading rooms or workshops (in Gelehrtenstuben oder in kleine Werkstätten).

Under these circumstances anyone who wants to consider (look at, observe, regard) technology (technique, technics) as applied natural (physical) science must a fortiori hold natural (physical) science to be (think of natural science as) theorised technology (technique, technics). The traditional primacy of technology (technique, technics) over (vis-à-vis) natural (physical) science lives on (survives) inside of (within) the modern interweaving (interconnection) of both of them (technology and natural science) in the form (of the fact) that the theoretical findings (results) of natural (physical) science are determined (conditioned) through (by means of) the apparatus (equipment) (die Apparate) which technology (technique, technics) manufactures (makes). The natural (physical) scientist reads in his apparatus (equipment) whatever (that which) the technician has put in it so that he actually (in reality) describes the functioning of the (technical) apparatus (equipment) when he talks about nature's behaviour (that the manufacturing (making) of the apparatus (equipment) for its part implies a certain kind (sort) of theory, as already mentioned, does not change this fact). Above the field (area, sector) in which this interweaving (interconnection) of natural (physical) science and technology (technique, technics) takes place (irrespective of

whether for the purpose (with the goal) of achievement (attainment) of theoretically usable (exploitable) results or for the purpose (with the goal) of practical application), *actual (genuine) (eigentliche)* theory stands or rather floats (hovers) as an attempt (effort) to construct an ideational whole which can offer ultimate (final) answers and explanations.

However this attempt (effort) can turn out very differently (vary greatly) according to each and every respective decision and each and every respective involved (participating theoretician's) identity, and that is why the deduction (derivation) of technical applications from the highest axioms of theory is untenable. In order to prove the objective truth of their own theory, i.e. in order to objectify (objectivise) their theoretical decision, the interested parties nevertheless *assert (claim)* a direct origin (descent) of technical achievements (accomplishments) at the "basis (base)" from the higher theoretical "superstructure". This assertion (claim) ought not be shown any more trust than for instance the proclamation (declaration, assurance) of Marxists-Leninists that the Bolschevistic seizing of power (the Bolshevik seizure of power) (Machtergreifung) and the establishing (founding) of the Soviet state proves from (in) practice the objective correctness of their perception (view) of history.

In reality technical achievements (accomplishments) therefore appear only as the necessary products of a general theory about nature, because in the meantime this theory has been imposed (carried (pushed) through) and those who work at the level of technical praxis (practice) and translate their way of thought and way of procedure (thought mode and procedural mode) into the dominant (ruling) scientific language want to recognise themselves in the mirror of the dominant (ruling) conceptuality (terminology). Another constellation (conjuncture) in the area (field,

realm) of society in magno and in the small society of theoreticians could possibly lead to (bring about) the prevalence (carrying (pushing) through) of another general theory while the technical achievements (accomplishments) were the same (let us recollect (we think of) e.g. the fundamental (programmatic) difference (contrariety) of the theoretical assumptions (positions) of Soviet and western physicists while technical development (technischen Entwicklung) in both camps followed a similar or the same (an identical) course). Precisely this de facto always existing and irreducible distance (gap) between theory and technology (technique, technics) indicates that not the pressure of "reality", but the specific power claims in the ideational area (field) push towards the formulation of general theories - just as specific (spezifische) power claims in other areas (fields) propel (push along, drive forward) the development of technology (technique, technics). After all, we have already said (explained) that, and why, specific theoretical power claims are not (cannot be) directly deduced (derived) from power claims of another kind (sort) (anderer Art).

V. The power character of theories with regard to their structure and their historical fate (Der Machtcharakter von Theorien im Hinblick auf ihre Struktur und ihr geschichtliches Schicksal)

Let us now talk about the consequences which the power character of theories has for their structure and their historical fate. In principle it is valid (holds true, in force) that every theoretical position comes into being as a counterposition (jede theoretische Position als Gegenposition

entsteht). Self-preservation (If self-preservation) in the ideational area (field) is (Ist Selbsterhaltung im ideellen Bereich), as well as in all other areas (fields), eo ipso self-intensification(increasing) (Selbststeigerung), that is, a power claim, so (then) this must entail competition and polemics (so muß Konkurrenz und Polemik nach sich ziehen). In these polemics the de-cisions (also in theoretical form) are formed and concretised (take shape) as well as the identities of the subjects (also of theoreticians). Since the de-cision is partly elimination of (the) irrelevant (elements), partly hierarchisation of (the) relevant (elements) (Da Ent-scheidung teils Eliminierung des Irrelevanten teils Hierarchisierung des Relevanten ist), so must the polemic against a foe's (enemy's) de-cision either declare (proclaim) as ((the) only) relevant element ((einzig) Relevanten) whatever is for this (foe) irrelevant, or at least hierarchise (arrange (put) in a hierarchy) what (for both sides) is relevant in the sense of (in terms of (accordance with)) particular preferences (each side's own preferences). The common acceptance of (the) relevant (elements) with a different (variable) hierarchisation of the same (relevant elements) indicates (points to) the existence of a common foe (enemy), and this again implies that the shaping (forming, formation) of a de-cision and an identity most of the time - especially (above all) in a complex world - takes place in view of a hierarchy of enmities. An alliance of different (various) subjects, that is, a collective power claim, which finds expression (is reflected (echoed)) in common assumptions (perceptions, views), turns against a common foe (enemy); should the common foe (enemy) be put (set) aside (removed, sidelined) (beseitigt) or made harmless, then the polemic is displaced (moved, shifted) to a new level and takes the form of a struggle (fight) for the "true" interpretation of the common assumptions (perceptions, views), in relation to which he (one, that person or side) prevails whose interpretation is recognised

(acknowledged) as binding on the basis of the existing correlation (constellation) of forces (aufgrund der bestehenden Kräftekonstellation). Whoever wants to make (raise) power claims inside this new situation (neuen Lage) must now either suggest (propose) a new interpretation of dominant (ruling) basic (fundamental) concepts (der herrschenden Grundbegriffe) or else another conceptuality (terminology) (Begrifflichkeit), that is, a new theoretical overall (total) position, and lead them (the new interpretation etc.) to victory (bzw. theoretische Gesamtposition vorschlagen und zum Sieg führen).

The multiple polemical considerations (objectives) and the different intensity of enmity vis-à-vis every one of the competing (rival) theories or identities of (rival) theoreticians determine the structure of a theory, as this (theory) is shaped (formed, moulded) as rationalisation (explanation, justification) of a de-cision and as expression of an identity. Namely, they determine the premises or the axioms from (out of) which they start (out), the choice of the methods and the ways (modes) of argumentation as well as the degree of complexity. No theory can endure in competition (withstand competition) if it is not at least just as comprehensive (extensive) as the others (the rest of the theories) are too, if it does not therefore deal with (treat) all questions in issue on each and every respective occasion, although it of course must do this in (from) the perspective of that one de-cision on which it is based. A theory, already because of the necessary consideration of counterarguments, cannot be restricted (limited, confined) to the mere (bare) announcement (declaration) of its axioms, that is, to its naked power claim, in relation to which a large number of counterarguments impels (forces, pushes) it (the theory) towards the unremitting (continual) refinement of its own argumentation. In this way those gigantic (huge) finely structured

construct(ion)s (creations, shapes, formations) gradually come into being (are produced (created)) (So entstehen allmählich jene riesigen feinstrukturierten Gebilde) which give rise to the impression of the sovereign independence of pure thinking (thought), while they (the constructs), through (by means of) the (increasing) logical complexity of their various kinds of founding (establishment), cover (conceal) their subjective power character.

And yet power claims may be anything other than arbitrary in the familiar (current) sense if they want to be imposed (carried (pushed) through) - something that (and this) again interrelates (connects) with the necessity of their objectification (objectivisation), as explained above. Not any decision at all and not any articulation of a power claim at all is possible or conceivable (thinkable) in a concrete situation. On the contrary, the persuasiveness and the chance (possibility) of the prevailing (carrying (pushing) through) of de-cisions and power claims increase to the extent that their originators (bearers) take the concrete situation seriously, i.e. the degree to which they take into account the logical and factual (real) magnitudes which (that) are handed down and widespread or just (happen to be) controversial (disputed) also exactly at that time, while apart from that they take (adopt) friendly or inimical positions vis-à-vis corresponding (connected) subjects. In spite of all the depth of its anthropological rootedness, the power claim is of little use in practical terms if it has not been sufficiently concretised historically (in the historical conjuncture) (Bei aller Tiefe seiner anthropologischen Verwurzelung taugt der Machtanspruch praktisch wenig, wenn er sich geschichtlich nicht ausreichend konkretisiert hat). That which (Whatever) appears as rationality of the de-cision (Ent-scheidung) and the theory resulting (that comes into being) from it in reality (actually) is their

historical concretisation, i.e. such a correspondence of theory with the historical moment that its content has to (of necessity) captivate(s) the thinking (thought) of contemporary people who are existentially and intellectually bound to (grown together with) this same moment. (Of course every concrete situation has several aspects, and that is why there can be a number of competing rationalities, a process that is made easier (facilitated) by the fact that "correct" and "false" theories are able to (can) use the same logical instruments irrespective of their content).<sup>9</sup> A decision (Eine Ent-scheidung) and a power claim ought, in other words, to appeal to other people, and that is why they must move more or less effortlessly on the (pre-)given stage, even when they want to or must appear in entirely new roles exactly in case (when(ever)) all the other roles are taken. Since foes (enemies) are obliged to share at least a battlefield, so too must every power claim stand on common ground with the rival (competing) power claims and be articulated only on this ground, the ground of the concrete historical situation. Just as one today cannot make (raise) a power claim in politics in the name of the resurrection (revival) of the ancient polis, so (too) in the field (area) of modern cosmology power claims can hardly be satisfied by flying the flag of geocentrism.

In (From) the perspective of the polemical character of theories the question regarding the formation of, and shift in, paradigms (paradigm

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<sup>9</sup> It must be noted that in both Kondylian "descriptive decisionism (decisionist theory)" (of this article and of *Power and Decision*) or in Kondylis's "general social theory (social ontology)" (of *The Political and Man*) more or less complimentary things are being said, but due to the different points of view and different magnitudes of "analytical focusing" different terminology can be used and different emphasis can be given in accordance with the scientific or analytical point of view and focusing: e.g. the discussion in "Science, Power and Decision" makes reference to the historicity or historical concretisation of the de-cision and the power claim, or to human subjects acting in concrete historical situations, whereas in *The Political and Man* there is discussion of the social relation, its mechanism, its spectrum, and of social action, without the historicity of the decision ever being refuted or contradicted since wherever there are world images, world theories (views), power and decision (obviously in the sense Kondylis uses those fundamental categories) etc., there are social relations, social action,... and vice versa, etc.. *The Political and Man* also contains an extensive discussion about the levels, forms and degrees of rationality.

shifts) (die Frage der Herausbildung und des Wechsels von Paradigmen) can also best be clarified. During the examination of this question (matter) various models for the interpretation, or rather the schematisation, of the course (order of events) and of the larger or smaller turning points in the history of the natural (physical) sciences (Naturwissenschaften) were proposed, in which at times the continuity, at other times the rupture (breaks), at times the interrelation (connection, correlation), at other times the contrasting of what has been handed down (the traditional) and the new (what is new) was stressed (emphasised). None of these models nevertheless is in a position to do justice to the historical variety of form (multiformity) in its entire breadth (Keines dieser Modelle vermag indes der geschichtlichen Vielfalt in ihrer ganzen Breite gerecht zu werden), every one of them, otherwise stated (in other words, put differently), can be applied only to certain cases (Fälle) - and every one is directly or indirectly based on a normative perception (view) of the essence (character) and of the praxis (practice) of science (und jedes beruht direkt oder indirekt auf einer normativen Auffassung vom Wesen und von der Praxis der Wissenschaft). However in order to understand such processes in their historical concreteness one is not allowed to (may not) formalise (structure in terms of form) a situation A or B in accordance with an already established (ready-made) pattern (model) (nach einem bereits feststehenden Muster formalisieren), but one must act (proceed) precisely conversely (the other way around): namely he (one) must dismember (dissect) (zergliedern) *this* situational case (situation) (situativen Fall), which is always unique (singular) in its subjective and objective constituent (integral) elements (parts) (components) (Bestandteile), name the individual and collective bearers of the theoretical power claims and scrutinise (look into) the groupings (group formations) as to their individual (separate) parts which come into

being and take effect in accordance with the friend-foe(enemy) relation (die gemäß der Freund-Feind-Beziehung entstehen und wirken). However from the concrete studying (study) of concrete situations (Aus dem konkreten Studium der konkreten Lagen) only the general conclusion (inference) can arise (result) that new constellations (conjunctures) are always conceivable (thinkable), that therefore change and normality (daily routine), tradition and rupture (breaks) are defined and realised always anew. Also exactly because of this, no logic of research ("logic of research") can be framed (set out) in abstracto (except as a theoretical power claim), since the use of induction and deduction, of method and intuition (Intuition) must vary considerably (intensely) according to the situation and subject. The result of research is not formed as the high point (summit) of a logical sequence of tiers (stages) (scale) (Das Ergebnis der Forschung gestaltet sich nicht als der Höhepunkt einer logischen Stufenfolge) which one has to climb (ersteigen) without fail, but rather as the resultant of positionings (stances) of the subject vis-à-vis friendly and inimical positions, as the determination (Bestimmung) of one's own place and one's own identity within each and every respective relevant community (jeweils relevanten Gemeinschaft) - whether it is managed (achieved) quickly or effortlessly.

The change which takes place (is brought about) in the so-called scientific revolutions can be called (characterised as) a general paradigm shift (als allgemeiner Paradigmenwechsel) when one ideal-typically compares both the paradigms in question with one another and in similar ideal-typical abstractness scrutinises (looks into) the replacement of one with the other (wenn man die beiden Frage kommenden Paradigmen idealtypisch miteinander vergleicht und die Ablösung des einen durch das andere in ähnlicher idealtypischer Abstraktheit untersucht). At the logical

level (level of logic), of course, the (afore)mentioned change (paradigm shift) can be reconstructed (only) in this way; however its concrete carrying out (fulfilment) (Vollzug) looks different, i.e. it differs considerably from that image (picture) of the direct confrontation of two subjects which the ideal-typical contradistinction (contrasting) of paradigms wants to suggest. According to the situation and the correlation (constellation) of forces (Je nach Lage und Kräftekonstellation), both the course and the duration of the formation of the new paradigm as well as the process of its spreading (diffusion) and its imposition (carrying (pushing) through) differ (a comparison of the (Aristotelian), Galilean (pertaining to Galileo Galilei) with the (and) Einsteinic paradigm(s) in both (the) respects should clarify this). Likewise on each and every respective occasion the new value (importance, status) of old data and formulations of a question (issues) are determined (fixed) differently, that is, on each and every respective occasion the question of the commensurability or incommensurability (symmetry and asymmetry) of theories is posed (asked) differently so that also here no normatively inspired generalisations are appropriate (hold water). In principle it is to be emphasised (has to be accepted) that, with regard to that, polemical purposefulness (expediency) decides whether a novel (original) theory will formulate (put forward) a new conceptuality (terminology) (Begrifflichkeit) or will use the dominant (ruling) one, by it either interpreting the same anew or putting it in a new framework and thus changing its meaning (sense). So according to the situation and the correlation (constellation) of forces the new can take the stage as radical denial or as commensurable (symmetrical) continuation of the old, and because of this the appropriation (adoption) of certain elements or even leitmotifs of a theory on the part of a newer theory cannot constitute compelling evidence for (conclusive proof of) the fact that in this (newer

theory) an organic meta-development (Weiterentwicklung, μετεξέλιξη) of the former (older theory) is to be seen; frequently we are dealing with a case of one side, not yet having consolidated (established) its own position, using against the established side its (the established side's) weapons. In this light, i.e. taking into consideration the concrete case (konkreten Falles) and leaving aside (through the abandonment (renunciation) of ) (pre-)given (prefabricated) schemata (und unter Verzicht auf vorgegebene Schemata), the question (topic) must be dealt with (examined), whether and to what extent terminological-conceptual changes (alterations) accompany (keep pace with) change in the general theoretical situation. There is no mechanical correspondence between theory and theoretical language, i.e. a correspondence irrespective of the interpretive activity of fighting (contending) and, on each and every respective occasion, theoretical (subjects or) identities which group themselves (form groups) differently. The comparison of theories is possible only with regard to (in connection with) the decisive struggle regarding (fight over) their interpretation, their deployment at the "theoretical front" (auf ihre Einsatz an der „theoretischen Front“). The common conceptuality (terminology) can as well only be the common "battlefield" (das gemeinsame „Schlachtfeld“) which, as we already said, foes (enemies) must share anyway. Formal or terminological and conceptual commensurability (symmetry) (Die formale oder terminologische bzw. begriffliche Kommensurabilität) does not at all (in the least) (by no means) guarantee(s) inner (internal) peace and continuity in the area (field, domain) of theory, just as incommensurability (Inkommensurabilität) does not at all (in the least) (by no means) hinder(s) communication - it only makes an inimical act (Akt) out of it.

The question (problem) of commensurability (symmetry) and incommensurability (asymmetry) (Die Frage der Kommensurabilität und Inkommensurabilität), in addition, must be posed (put) differently according to the degree of, and claim to, generality of theories. The more general a theory, the greater the power claim of the subject which binds (ties, connects) its theoretical identity to it. As in society in magno, so too in the small society of theory there are different subjects and power claims, and as in the former (society in magno) the great mass makes (forms) its decision (ihre Ent-scheidung) for the most part in the form of an identification with the already existing model (pattern) of the de-cision (mit bereits vorhandenen Ent-scheidungsmustern), so too most members of the latter (small society of theory) orientate themselves towards the dominant (ruling) framework (context) (am herrschenden Rahmen) and satisfy their modest (restrained, measured) theoretical power claims in a modest (restrained, measured) manner. The distinction (differentiation) between revolutionary and normal science (Die Unterscheidung zwischen revolutionärer und normaler Wissenschaft) can therefore be well understood from the point of view of the fundamental categories of power and decision (aus der Sicht der Grundkategorien von Macht und Entscheidung gut verstehen), however from this in (of) itself clear distinction one cannot directly deduce law bindedness (determinisms, law/rule-based necessities) (Gesetzmäßigkeiten, νομοτέλειες) in the succession of both these kinds (sorts) of science. Because the variety of form (multiformity) of the power claims and of the correlation (constellation) of forces make possible (enable) all variations of normal (normaler) and revolutionary science, it (the variety of form) indeed makes possible (enables) both a stiffening as well as a liquefaction (rendering fluid) of these concepts themselves. A one and only model of revolution in science is just as untenable as one (such model) in politics.

Seen morphologically (in terms of form, formally), the power game unfolds (Formal gesehen entfaltet sich das Machtspiel) more or less in accordance with the same general rules, totally (entirely) irrespective of how broad each and every respective field (sector) in question is; yet it always remains open and it must be vouched for (seen) in every concrete case to what extent and in what sense changes (alterations) in the smaller fields (sectors) influence the overall (total) (general) situation as well as the outcome of the struggle on the overall (total) field (of theory). The readiness (willingness) to (be able to) infer (conclude) the general unsuitability of a paradigm from the ascertained weaknesses as to its individual (separate) parts depends on the dynamics of the concrete situation rather than on the "objective" weight of the individual (separate) problems themselves, which become interesting to the extent that they can constitute in times of fermentation (unrest, agitation) the focal point (centre) of contradistinctions (confrontations, altercations) which are rich in implications (with wider implications). This or that formalistic perception (view) of revolution and normality, of continuity and rupture (breaks) in science is not then only historically insufficient, but also the scientific-rationalistic putting first of criteria like, for instance, falsification (Historisch unzureichend ist also nicht nur diese oder jene formalistische Auffassung über Revolution und Normalität, über Kontinuität und Bruch in der Wissenschaft, sondern auch die szientistisch-rationalistische Voranstellung von Kriterien wie etwa dem der Falsifikation). It has already been noticed by several sides that on the basis of such criteria no distinction (differentiation) between revolutionary and structurally insignificant changes (alterations) in science is possible. Not any problem and not any hypothesis, so not even any falsification at any moment influences the course of the development of science (scientific development) (den Lauf der

Wissenschaftsentwicklung) - rather, similar or identical problems and hypotheses can have an essentially different status (importance) in different (various) situations (Lagen). Higher science is therefore in practice not that (one) (the science) which solves problems but that (one) (the science) which determines what the problems are. Only out of this determination does the definition and the status (importance) of experience follow (folgt die Definition und der Stellenwert der Erfahrung), and hence the decision as to whether the hypothesis has passed the test of falsification through (by means of) experience (has passed the empirical test) or not (ob eine Hypothese die Probe der Falsifikation durch Erfahrung bestanden hat oder nicht).

#### VI. The utopia of a dominance-free science (Die Utopie einer herrschaftsfreien Wissenschaft)

The utopian character of the demand to make out of science a power-free and dominance-free territory (terrain) (aus der Wissenschaft ein macht- und herrschaftsfreies Terrain zu machen) and to secure (safeguard) scientific progress through (by means of) the motto (principle) "anything goes" derives from the proof (Nachweis) that in the sector (area, domain) of science the anthropological<sup>10</sup> law of power and decision is in force (applies) no less than in other sectors (areas, realms) of the social and the ideational (of social and ideational magnitudes) (als in allen anderen

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<sup>10</sup> As becomes apparent from *Das Politische und der Mensch* "anthropological" refers to merely one aspect of human existence and in no way can be understood as separate from the socio-ontological dimension (the mechanism and spectrum of the social relation, the political) or man's rationality, action, culture, identity etc., and therefore is not something that pertains to man in isolation from human society even though biological constants such as the drive of self-preservation, the necessity of death etc. in man also exist in non-human animals.

Bereichen des Sozialen und des Ideellen). If only *this* motto (Devise, αρχή) can guarantee (scientific) progress, then the obvious - even though in its consequences Janus-faced - scientific progress in recent (during the last few) centuries cannot be properly (satisfactorily) explained any more. For the putting (setting) aside (removal, sidelining) of (In order to put aside) this striking contradiction it was pointed to (stressed), incidentally not unjustly, that the "anything goes" was followed (put into practice) in actual fact also in the past and that the consistent application of the falsification principle (principle of falsification) probably would have prevented (hindered) progress; the conclusion must apparently (obviously) be that whatever was practised in actual fact in the past, unconsciously or secretly, from now on (henceforth) should consciously and openly (candidly) become the maxim of scientific practice (action) (Handelns). This view overlooks the mechanisms in the area (field) of the ideational (magnitudes) (An overlooking of the mechanisms in the area (field) of the ideational is here made known). Namely, it makes a great *practical* difference whether all (everyone) de facto do (does) whatever they want, while simultaneously believing that they are following an objective principle or an objective method, or whether all (everyone) de facto and de jure devote(s) themselves to (follow) their own appetite (inclination, desire) or inspiration. To confuse the subjective course (development) of thinking (thought) with its objective function, to accept the possibility of a ponderable (calculable) correspondence between practice (action) and the self-understanding of those engaged in practice (acting) and to expect better results for praxis (practice) from the knowledge of the mechanisms of praxis (practice) - these are only classical rationalistic prejudices (Den subjektiven Ablauf des Denkens mit seiner objektiven Funktion zu verwechseln, die Möglichkeit einer berechenbaren Entsprechung des Handelns mit dem Selbstverständnis des

Handelnden anzunehmen und aus der Kenntnis der Mechanismen der Praxis bessere Resultate für die Praxis zu erwarten – dies sind nur klassische rationalistische Vorurteile). In reality, there is a necessary inner (internal) symmetry between the wanting (will, volition) of the subjects in question to proceed (with their scientific work) methodically and objectively and not anarchically, and the in fact anarchic character of science (In Wirklichkeit gibt es zwischen dem Wollen der Betreffenden, objektiv bzw. nicht anarchisch zu verfahren, und dem tatsächlichen anarchischen Charakter der Wissenschaft eine notwendige innere Symmetrie). Because that wanting (will, volition) expresses a power claim, that is a claim to objectivity of one's own decision, and an anarchic historical variety of form (multiformity) comes into being out of the struggle (fighting) between the power claims against one other. The - anyway (in any case) impossible - renunciation of the "dogmatic" power claim would lead to the drying up of the psychological sources of action (Quellen des Handelns) and therefore to (theoretical) sterility. And since, as we know, this power claim already manifests itself in the observation and sifting of facts (Sichtung der Tatsachen) which can always only be seen in a certain (particular) perspective (die immer nur aus einer bestimmten Perspektive gesehen werden können), (so) the - anyway (in any case) impossible - renunciation of it (the power claim) would entail (require) an anthropologically completely different way (manner, mode) of knowledge (cognition) (cognitive approach) (so würde der – ohnehin unmögliche – Verzicht darauf eine anthropologisch ganz andere Erkenntnisweise erforderlich machen) (,that is, it would entail other kinds of people).

Whoever admits to (accepts) the perspectivity and the historicity of knowledge must consequently, to be consistent (consistency-wise),

understand science from the point of view of (the fundamental categories of) power and decision. Also, the collective power claim of science, namely the belief in the objectivity of its findings (results) and in the, of its essence (nature), superiority of its way (manner) of knowledge (cognitive mode (approach)) (ihrer Erkenntnisweise), was and is for its progress constitutive (konstitutiv). Like the consistent application of the falsification principle (principle of falsification) (Wie die konsequente Anwendung des Falsifikationsprinzips), so too the undermining of this power claim and this belief would endanger science in toto. Those scientists and theoreticians of science (jene Wissenschaftler und Wissenschaftstheoretiker), who in recent (during the last few) years fight (combat) with increasing severity (intensity) historical and relativistic tendencies, instinctively suspect (sense, foresee) this. That is in (of) itself a sign of social weakness and the in practice lack of prospects of the ideal of a dominance-free science (Das ist an sich ein Zeichen für die soziale Schwäche und die praktische Perspektivlosigkeit des Ideals einer herrschaftsfreien Wissenschaft) - an ideal incidentally which not less than all others (other ideals) has an obvious (incalculable) aspect and inside (within) a concrete situation helped a power claim (claim to dominance) to be articulated in the area (field, domain) of theory. Like in other fields, not least of all in moral theory and value theory (der Moral- und Werttheorie), so too (as well as) in the field of the theory of science, historical relativism sees things more clearly than its foes (enemies) (auf dem Gebiet der Wissenschaftstheorie der historische Relativismus die Dinge klarer als seine Feinde erkennen). However the same praxis (practice), which it correctly describes, can only then continue (go on) if it ignores it (historical relativism) or even fights (combats, persecutes) it (historical relativism).<sup>11</sup> While relativism must in the end (ultimately,

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<sup>11</sup> Kondylis is saying that all points of view are relative to time and place, power and decision, but as

eventually) call into question the meaning of life (Indem der Relativismus schließlich den Sinn des Lebens in Frage stellen muß), it threatens the drive (urge, impulse, instinct) of (for) self-preservation of people (theoreticians are at least in this respect perhaps (possibly) even more human than others), and it is treated (handled, dealt with) accordingly - despite the short-term partial alliances with it (relativism) in fighting (combating) a "dogmatic" foe (enemy). After all not even in the future will one succeed in drawing normative conclusions (making normative findings) (normative Schlüsse) (manage to draw normative conclusions) from (out of) a historical-relativistic way of looking at things (consideration, observation). But precisely such (normative conclusions) are needed by those who act (Gerade solche tun aber den Handelnden not). Whoever consistently represents historical-relativistic contemplation (observation) and is familiar with the mechanisms of power and decision must nevertheless quietly abstain from the formulation (putting forward) of every norm and every regulation (or order) (der Aufstellung jeder Norm und Vorschrift) - including the regulation (or order) for the abolition of all regulations (or orders). A higher pragmatism can even (perhaps) exist (lie) in the renunciation of pragmatism itself, in so far as (to the extent that) this follows (adheres to, espouses) the rationalistic prejudice of a possible symmetry between conscious motives and objective results in action and in theorising (insofern dieser dem rationalistischen Vorurteil einer möglichen Symmetrie von bewußten

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we have already pointed out, scientific knowledge is possible because it recognises this state of affairs and does not make normative claims, i.e. it does not tell people what to do, how to act, in addition to being tested by facts, logic as well as knowing its limits etc..

Motiven und objektiven Resultaten im Handeln und im Theoretisieren anhängt).<sup>12</sup>

Texts used for this translation:

Kondylis, P. "Wissenschaft, Macht und Entscheidung", pp. 81- 101 in H. Stachowiack (ed.), *Pragmatik Handbuch Pragmatischen Denkens Band V Pragmatische Tendenzen in der Wissenschaftstheorie*, Felix Meiner Verlag, Hamburg, 1995.

Kondylis, P. "Wissenschaft, Macht und Entscheidung", pp. 129-156 in P. Kondylis, *Machtfragen. Ausgewählte Beiträge zu Politik und Gesellschaft*, Wissenschaftliche Buchgesellschaft, Darmstadt, 2006.

Κονδύλης, Π. *Επιστήμη, Ισχύς και Απόφαση*, Εκδόσεις Στιγμή, Αθήναι, 2001.

Where there was a discrepancy (e.g. as to paragraphing) between the German texts, the 1995 text was preferred. Notwithstanding that the English translation is from the German text, Kondylis's own Greek version proved very useful in producing the English translation since the author's own preferences in translating German terms guided much of the approach to translating from German into English, whilst of course always keeping in mind the differences between, and respective textures of, the three languages, and the history of conveying German sociological and philosophical terms in English.

All the footnotes are the translator's and as footnotes have nothing to do with Kondylis himself.

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<sup>12</sup> The heterogony of ends (Die Heterogonie der Zwecke) never ceases to overshadow the long-term collective consequences of individual separate individual and collective acts (which arise, not necessarily symmetrically, from the respective intentions behind those acts).