Plan:

1) The context : Kurt Gödel's philosophy and the gödelian studies
2) The ANR project and the Max-Phil Notebooks (1937?-1955?)
3) Remarks on Physics in Max-Phil

1995/6 a turnig point

S. Ferman, J.W. Dawson, Jr, W. Goldfarb, Ch. Parsons, R. Solovay,
The collected Works of Kurt Gödel vol. 3:
Unpublished essays and lectures
1995 Oxford University Press

Hao Wang
A Logical Journey : from Gödel to philosophy
1996 MIT Press

Gödel as *savant universel*

1) Logic : the incompleteness theorems (1931)

2) The work on set theory (1938-1940)

3) The works on relativistic cosmology (1949-50)

“My work is an application of a philosophy suggested outside of science and obtained on the occasion of thinking about science” (Wang 1996, p. 297, 9.2.2)

The “philosophical” papers in the CW

1)“Russell’s mathematical logic” 1944, CWII

2)“A remark about the relationship between relativity theory and idealistic philosophy”, 1949, CWII

3)“What is Cantor’s Continuum problem” 1947, CWII

4)“Some basics theorems on the foundations of mathematics and their philosophical implications” 1951, CWIII

5)“On an extension of a finitary mathematics which has not yet been used” *Dialectica* (12) 1958

6) “Is mathematics syntax of language” 1953, CWIII

7)“The modern development of the foundations of mathematics in the light of philosophy” 1961, CWIII

8)

My philosophical viewpoint

1. The world is rational
2. Human reason can, in principle, be developed more highly
3. There are systematic methods for the solutions of all problems (also art, etc)
4. There are other worlds and other beings of a different and higher kind
5. The world in which we live is not the only one in which we shall live or have lived
6. There is incomparably more knowable *a priori* than is currently known
7. The development of human thought since the Renaissance is thoroughly one-sided oriented
8. Reason in mankind will be developed in every directions
9. What is formally correct is part of a science of reality
10. Materialism is false
11. The higher beings are connected to each-others by analogy not by composition
12. Concepts have an objective existence
13. There is a scientific (exact) philosophy and theology (this is also more highly fruitful for science) which deals with concepts of the highest abstractness;
14. Religions are, for the most part, bad. But Religion is not.

Wang 1996, p 316 (9.4.17) (with corrections by E.M. Engelen))

a) Gödel dreams of a systematic and exact philosophy

12. Concepts have an objective existence
13. There is a scientific (exact) philosophy and theology (this is also more highly fruitful for science) **which deals with concepts of the highest abstractness**
14. Religions are, for the most part, bad. But Religion is not

Philosophy as an exact theory should do to metaphysics as much as Newton did to physics Wang 1974 p. 85

The fundamental philosophical concept is cause. It involves will, force, enjoyment, God, time, space CWIII, p 433

8.6.17 *The fundamental logic concepts are universality, negation, application, conjunction, the concept of object, the concept of concept* [Wang 1996]

b) The errors of the Zeitgeist are obstacles to the developement of human reason

7. The development of human thought since the Renaissance is thoroughly one-sided oriented
8. Reason in mankind will be developed in every directions
9. What is formally correct is part of a science of reality
10. Materialism is false

“Particularly in physics, this development <of philosophy toward skepticism, materialism and positivism> has reached a peak in our time, in that,to a large extent, the possibility of knowledge of the objectivizable states of affairs is denied, and it is asserted that we must be content to predict results of observations. This is really the end of all theoretical science in the usual sense (although this predicting can be completely sufficient for practical purposes such as making television sets or atom bombs)”

CW III, 1961 page 375-77

2. The ANR project

Hao Wang 1987 p.9

“What is likely to be of great importance in philosophy is his unpublished work. My reconstruction of the conversations with him is meant to be a small step toward making his unpublished views more broadly accessible. The major task of selective publication from his vast Nachlass will undoubtedly be arduous and valuable”

Solomon Feferman
“The Gödel Editorial Project : A synopsis”
The Bulletin of Symbolic Logic vol 11 (2) 2005
“Though indeed much has been gained in our work there is still be much that can and should be done” p.132

John Dawson jr, Ch. Dawson :
“Futur Tasks for Gödel Scholars”
The Bulletin of Symbolic Logic vol 11 (2) 2005

There were several reasons for editors’ inhability fully to realize their intentions: gross underestimation of the time to do the editorial work; difficulties in reconstructing some of the texts; changes in personnel <...> and eventually, after twenty years of effort, exhaustion of sources of funding” p.150

The ANR BLA-09-1303

Partenaire 1 :CEPERC resposable G. Crocco

group from CEPERC: Eric Audureau, Alain Michel, et alii
group of the “expert”: Dawson, Kanamori, Tiezsen, Sundholm

Partenaire 2 : CREA and than IHPST résposable P. Kersberg,Mark van Atten et alii

Expected output

1) transcription from Gabelsberg to German
of the relevant philosophical texts in the Archives

2) Translation in French and Italian preparing the English one

3) Preparation of a critical apparatus
- with textual informations
- references to the Gödelian published corpus
- references to the other unpublished manuscripts

Expected outcomes

1) A clarification of Gödel's philosophical background in respect to the philosophy of the past (in particular Gödel's debt towards Leibniz).

2) A clarification of Gödel's notion of concepts, and of its connection to the search for an intensional free-type logic

3) A clarification of Gödel's contribution to physics, and of his "logical analysis" of a pure theory of gravitation.

3.The Max-Phil Notebooks

Notebooks 0-XV, the XIII was lost by Gödel (circa 1500 pages) written in Gabelsberger from ?-1937 to 1955 -?

“1. About one thousand 6X8 inch stenographic pages of clearly written philosophical notes (=philosophical assertions)”

Wang 1987 p. 9

Max-Phil 0-VIII (?)1937-Nov1942	“The consistency of the axiom of choice and of the generalized continuum hypothesis”	published 1938, 1939, 1940
Max-Phil IX-X Nov42-Jan44	“Russell’s mathematical logic”	req.. Nov42 published 1944
Max-Phil XI-XIII Jan44- Juil46	What is Cantor’s Continuum problem?	req. Nov 45 published 1947
	The three papers on relativity and cosmology	req.Jul 46 published 49
Max-Phil XIV Juil46-(?)-55 Max-Phil XV 55-?	Some basic theorems on the foundation of mathematics	del. 1951
	Is mathematics syntax of language?	sol. 1953 never published[14]

Philosophie I, Max 0 pp.1-80

Programm, Max, Frage, Probleme

Schlick : Logik und Erkenntnis Theorie Wien 1934

Was ist Erkenntnis

Hildebrand 6/10

Kastil 19/X

1/1/1940, 12/6/1941, 16/6/1941

Max I-II Zeiteinteilung pp1-156 (inside 24/8/1937-13/9/1938)

Was und Wie, Programm, Bem, Max, Frage

2) Max-Phil III- Max-Phil VIII

Max III 1940 and inside the notebook 1/1/1941, pp. 1-150

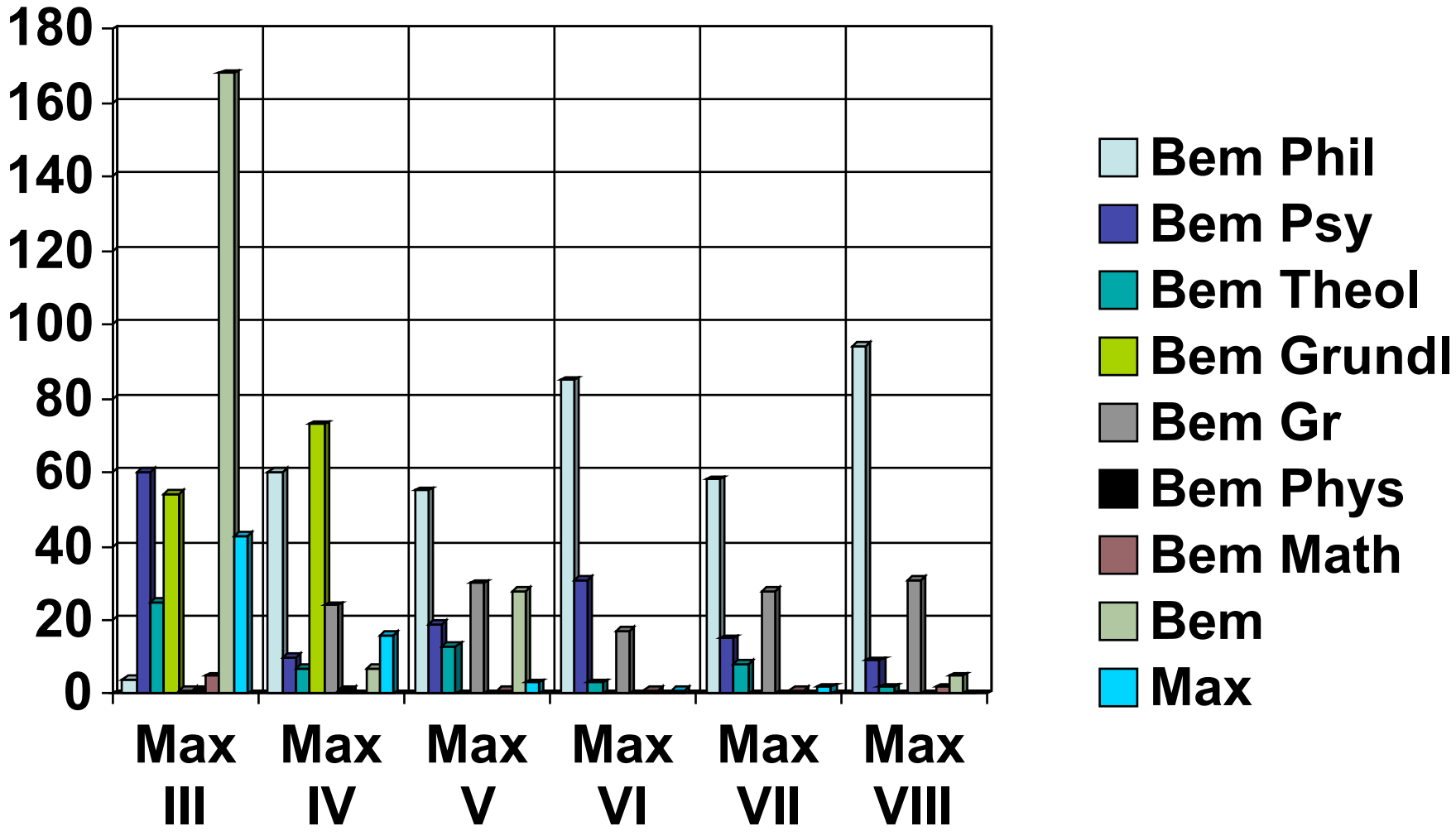
Max IV Mai 1941- April1942 pp. 153-285 +some lose pages

Max V 1 Mai 1942- June 1942 pp. 286-379

Max VI 1 July 1942- 15 July 1942 pp. 380-469

Max VII 15 July 1942-10 September 1942, pp. 470-562

Max VIII 15 September 1942-18 November 1942, pp. 563-680


180
160
140
120
100
80
60
40
20
0
Max III
Max IV
Max V
Max VI
Max VII
Max VIII
Bem Phil
Bem Psy
Bem Theol
Bem Grundl
Bem Gr
Bem Phys
Bem Math
Bem
Max

3) Max-Phil IX-XII

Max-Phil IX 18 Nov. 42- Mars 1943 pp 1-96

Transcription, translation

Max-Phil X 12 Mars 1943- 27-1 1944 pp 1-93

Transcription, translation, critical apparatus

Max-Phil XI 28/1/1944- 14/11/ 1944 pp. 1-155

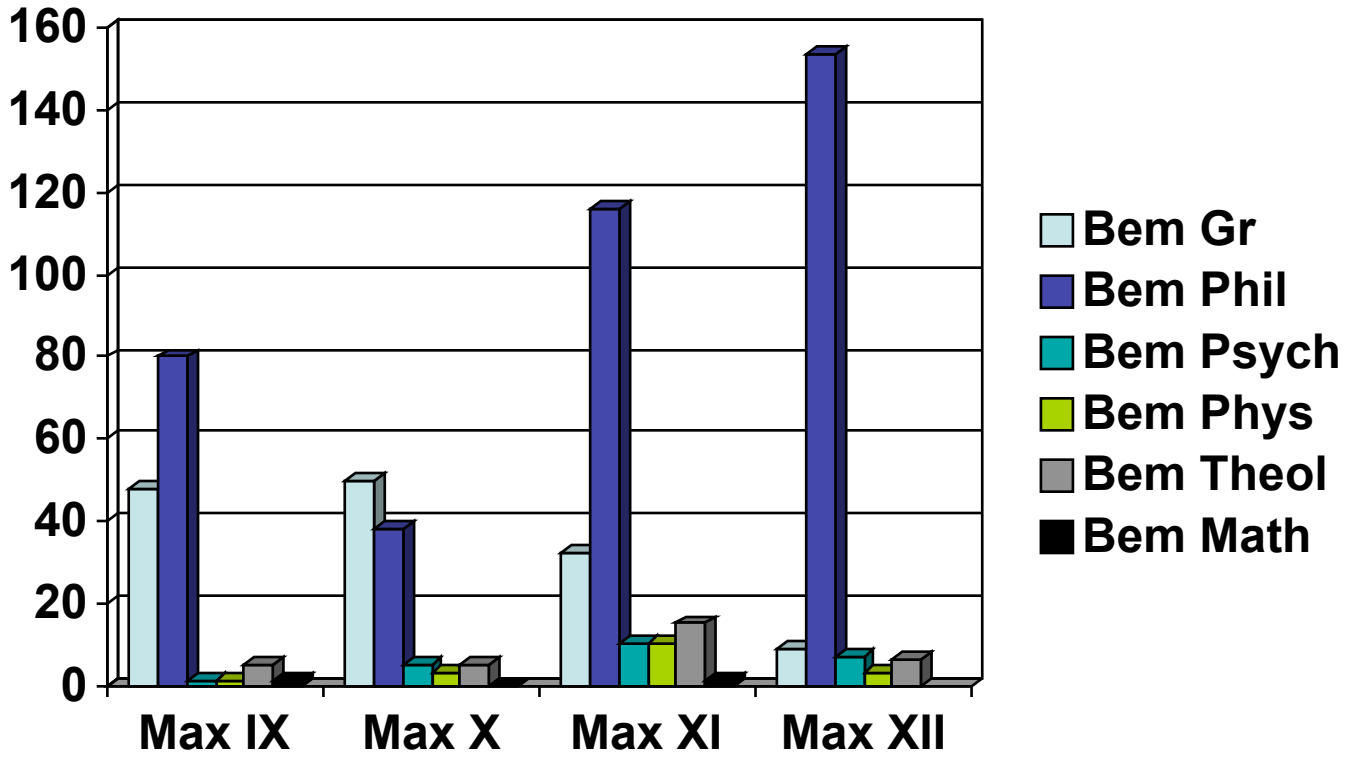
Transcription, translation

Max-Phil XII 15/11/1944 - 5/6/ 1945 pp1-119

Transcription, translation

Bem Philologie, Bem Moral

Bem Leibniz, Bem Carnap, Bem Russell


160
140
120
100
80
60
40
20
0
Max IX
Max X
Max XI
Max XII
Bem Gr
Bem Phil
Bem Psych
Bem Phys
Bem Theol
Bem Math

4) Phil XIV and XV
- Phil XIV
July 1946- Mai1955
transcription pp1-128, transcribed without checking

a) Das Vergehen der Zeit : 14 Points
une vingtaine de page avec deux Bem Phil à l'intérieure
b) Bem Phil 31, Bem Gram 5, Bem Philol 2, Bem Psych 5, Bem 4, Bem Physik 2, Bem Logik 1, Max 2, Bem Physik 2, Bem 4, Bem Logik 1

c) Philol 5, Philosophie 54, Mathematik 2
Gr 1, Grundlagen 4

5) Phil XV
Mai 1955- ? 1- 30 transcription p

Phil 45
Grammatik 1
Grundlagen 6
Physchologie 1

1) Gödel's virtuous circle of inquiring in respect to philosophy

Rem[ark] (Phil[osophy]) : My work with regard to phil[osophy] should consist in an analysis of the highest (logical and psychological) concepts; i.e. what has to be done in the end is to write down a list of such concepts and to think about possible axioms, theorems and definitions for them (of course together with [their] application to the empirical given reality). In order to do that, it is necessary to acquire a "feeling" of what can be adopted through ([even] half understood) philosophical reading*. On the other hand, understanding an axiomatic system increases the comprehension of philosophical authors [therefore interaction from the "top" and the "down", where the correct *ratio* is important].
Substitutes for reading philosophers: reading some books containing precise analysis, learning languages (Hebrew, Chinese, ?Greek?) and learning the precise definitions of the common words and concepts.

*and through writing down philosophical remarks.

2) Max-Phil X announces precisely the content of Gödel's works on physics

Bem<erkung> (Phys<ik>): Zwei Auffassungen der vierdimensionalen Welt. Entweder 1. als etwas starr Existierendes <oder> 2. mit einer dreidimensionalen Ebene, die sich darin „bewegt" (oder überhaupt nur dreidimensional). Max-Phil X, p. 10

Bem<erkung> (Phil<osophie>): Welches ist die richtige Auffassung der Zeit: 1.) die Zeit verläuft „objektiv". Wirklich ist nur die Gegenwart, die vergangenen Ereignisse sind nichts (nicht wirklich). 2.) die **„Einstein-Kantische Auffassung"**: das Vergehen der Zeit besteht in der Änderung unseres Gesichtspunkts, die vergangenen Ereignisse sind ebenso wirklich wie die gegenwärtigen. […] Max-Phil X p. 24

3) Max-Phil X and XI contain remarks on quantum mechanics

Remark (physics): If you accept that electrons and quanta of light are “events” [but so that every event has a “structure”, i.e. is not only a mathematical point], you might try to explain the emergence of these “events” by an instability of the spatial structure [*materia prima*], and by the tendency to develop every little perturbation automatically into a whole “organism” of such electron-event (from birth to death). As with all such instability phenomena, Statistics must be involved here. The perturbations themselves must be caused by “forces”, which emanate from the electron-events “existing” at a moment*. Max-Phil X p. 10

How can we conciliate Gödel's search for an axiomatic of logical and psychological concepts with this deep interest for physics ?

4) The analogy between physics and psychology

Bem<erkung> (Phil<osophie>): Die Analogie zwischen Physik und Psychologie (wobei der *physik<alische>* Raum übergeht in den logischen Raum) ist dasjenige, was zur allgemeinen Theorie der Welt (*sci<entia> gen<eralis>*) führen muss. Max-XI p. 70

Bem<erkung> *(Phil<osophie>)*: Die *scientia generalis* des *Leibniz* ist offenbar etwas Ähnliches hinsichtlich des ganzen Gebiets der Erscheinung [d.h. aller Wissenschaften, *inkl<usive> Math<ematik>*] **[68]** wie die *Newton*sche Physik hinsichtlich der physikalischen Erscheinungen. Die „*Cynosura notionum*“ besteht dort aus Raumpunkt, Zeitpunkt, Massepunkt, Lage auf, Kraft, Masse. Dadurch, dass man alle physikalischen Erscheinungen auf dieses System „*projiziert*“, d.h. es durch sie zu „interpretieren“ sucht, werden die *a priori* bestehenden Möglichkeiten eingeschränkt, und es sind daher Voraussagen möglich. Dass die *Newton*schen Begriffe selbst noch nicht das Gesuchte sind [was die Materialisten glauben], sieht man 1. aus der Math<ematik>, bei der überhaupt kein Verständnis durch sie möglich <ist>, 2. aus *Psychol<ogie>* und *Soziol<ogie>*, wo prinzipiell ein Verständnis möglich wäre, aber nicht praktisch

6) Searching for a redefinition of physical notions

a) Force

Remark (phlosophy) […]

inertia = idleness, that is to say the psychical force that opposes any activity</work>. Analogy:

Force of Gravity : Inertia = God : Devil.

The force of gravity governs the sky and tries to destroy every multiplicity [It would cease only if all matter was concentrated in a single point*]. Max-Phil X p. 4-5

Remark (philosophy):

The *Newtonian* concept of force refers somehow to an effort without any sense <goal>, because there exists absolutely no real state in which the force ceases; whereas, for example, the chemical force ceases when the link is established (that is when a kind of completeness is achieved). Max Xp; 5

b) Time

Remark (philosophy): Life is obviously an incomplete structure, which therefore attracts matter from outside [namely oxygen, carbohydrates, amino acids] and includes it in its structure. The newly appeared structure exerts evidently again a “force of dissociation” on itself, from which urea and carbonic acid are given off.

Through the whole, is there an improvement <completion> of the original structure? (Our body is however always worse, and only the mind* is better.)

The whole shows that life is in a constant improvement <completion> through something that does not generate a complete perfection <completeness> […]

Max X p 7-8

c) Space

Bem<erkung>: Die Menge der Raumpunkte ohne ihre Anordnung und ohne irgendwelche Beziehungen ist etwas äußerst Künstliches. Existiert das überhaupt? Max-IX p. 18

Bem<erkung> (*Phys<ik>*): Das Feld ist eine Realität, welche sich nicht so einfach in der logischen Form: *Subj<ekt>* mit seinen *Präd<ikaten>* und Relationen, auffassen lässt. (Die Raumpunkte als Subjekte sind durch die *Einst<einsche>* Theorie verschwunden.) Wahrscheinlich die „Raumzeitpunkte“ (die nur momentan existieren). Hier <ist> deutlich der Unterschied gegen<über> <der> Raumzeit als System von Maßzahlen, welche Beziehungen zwischen anderen Realitäten ausdrücken (Raumzeitpunkte selbst <sind> keine Realitäten). Oder aber sind die Subjekte „Ereignisse“ (dann muss aber das Feld überall verschieden sein) oder „Elemente der physikalischen Wirklichkeit“? XIp. 70

Gabriella Crocco (ed) Gödelian Studies vol. 1 PUP to appear Spring 2014

J. Dawson What have we learned from the Gödel Nachlass and what more my it have to offer

1) Gödel's debt toward the philosophy of the past

- M. Mugnai "Gödel and Leibniz"
- E.-M. Engelen ''About the pleasure and the difficulties in interpreting Kurt Gödel's Philosophical Remarks"
- M. van Atten "The Dialectica Interpretation and Leibniz"
- M. van Atten "Monads and sets"

2) Logic and the theory of concepts

- J. Floyd, A. Kanamori Gödel vis-à-vis Russell
- G. Crocco "Intensio/extensio, Sinn/Bedeutung in Gödel Max-Phil IX"
- G. Crocco, J. Bernard "The paradox of concept in Max-Phil IX and X"
- P. Cantù : "Peano and Gödel"
- Amélie Mertens : "Gödel's distinction between objective and subjective concepts, in Max-Phil XI"

3) Physic and cosmology

- E. Audureau : "From Newtonian force to Newtonian absolute"
- J. Bernard : "From the physical existence of n-tuples to quantum mechanics"