Pensees : proof of infinity.

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I - The topic of infinity in the *Pensees*

In the order of the Manuscript it is the topic of infinity that opens the *Pensees*.

While in the context of the copy, (C1), it is part of an unordered series for which we have the information that “Pascal had long carried it inside his pockets” — the only series of its kind for which we have such an indication.

One way or the other there seems to be something special about these notes on infinity.

Figure 1: Manuscript p3 (Bibliotheque Nationale)

Retranscription :

“Infini rien

<separation line>

notre ame est jetee dans le corps ou elle...

<separation line>

... unite jointe a l'infini”

A reader of the thematical edition, Brunschvicg's, or any other, may never know, for instance :

Brunschvicg begins with the difference between the ‘two kinds of minds’.¹

The thoughts on infinity, there, are gathered in, later, section II.²

¹[which, as a by-note, may explain why it is so often cited (a somewhat artificial status)]

²233 and surrounding.

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Lafuma has accurately described their material aspects : not as much small notes, as larger papers separated by lines (headed by crosses).³
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Here our translation of the third thought (from top to bottom, in the order of the manuscript) :

Manuscript beginning - ...

“A unit added to infinity does not augment it in any way ... Finite, in the presence of infinite is annihilated; and becomes pure nothing [”neant”];

Such is our spirit in front of God; and our justice before divine one.

(...)

We know that there is an infinite and [yet] ignore its nature; in the same way that we know to be false [the idea] that numbers are finite : hence there is an infinite in numbers; we [just] do not know what it is;

it is false [to say] that it is odd; as adding a unit to it wouldn’t change its nature at all. Yet it is a number, and any number is either even or odd. It is true that this applies [”cela s’entend”] to finite numbers.

It is so that we can know that there is a God without knowing what he/it/they/she is. [”il”]

Fragments in pages 347, at least, 361 of the Manuscript pursue this theme :
:

³Lafuma 1952 introduction : 15.

The question “*What’s a man within infinity?*” (*Qu’est-ce qu’un homme dans l’infini?*) gives them their general structure.⁴

Pascal starts by prompting the reader to consider a mite as something very small; this serves to introduce “an entirely new kind of abyss” : pointing to the presence of not only that which is tiny all the while remaining visible, but also that which, (being so small), is invisible :

“I wish to paint not only the visible universe ... but the infinity of universes; planets; animals;

(...)

For, what is after all, Man within nature? Nothingness when compared to infinity.”

This ties back to other thoughts by Pascal about science, in particular its characteristic of having to go against “common sense”, or common perception.

589 B

There are other religions than Christianity.

591 B / 558 L

[A diagram of the various religions]

592–603 B

[Lengthy discussion of the other religions’ characteristics]

604 B

*The only science which goes against common perception [“le sens commun”]
and the nature of Man, is the only true ...*

⁴[Their only difficulty being Pascal’s use of the word ‘*ciron*’.]

The only religion which goes against nature, against common perception, is the only one to have ever been.

And, hence Christianity – defending a view of Man as faulty – being true...

“Common sense” here should not be regarded as the beliefs of common people, only, but in the very literal meaning of the human senses e.g. vision.

[It was nothing else than that very same 17th c., Pascalian definition that Bachelard would use in his *Formation of scientific mind*, to define a scientific fact.]

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We should put these developments, around the infinitely big and small, in the context of the scientific developments of Pascal’s times.

Improvements in microscope technology had occurred during that time e.g.
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updates by “Dutch lens-makers, especially Anton von Leeuwenhoeck (1632–1723) ... allowed ... to see single blood cells circulating”;

while on the front of telescopes :

“... Kepler’s observations had all been done with the naked eye, but the invention of the telescope ... in the early seventeenth century allowed”⁵ for observations reaching further.

Pascal goes on :

“Everything comes from nothing and tends towards infinity.”

(Concluding that no one else but their ”author”, i.e. God, could ever understand the full picture of these events, “marvels”/“*merveilles*”.)

⁵Wiesner-Hanks 2013 : 296; 376-77.

II - God / the “infinite being”

Manuscript pp 3-4

”If there is a god, it is infinitely incomprehensible...”

This is the starting point for Pascal’s argument :

creating what Bertrand Russell – had he read him – would have no doubt considered an interesting argument of logic, and paradox.

1. That there is no god : how could we know?
2. If there is one : by Pascal’s definition (of their properties), it is outside of (our) logic.

”... infinitely incomprehensible, because, having no parts or limits, it/he/etc. ... has no relationships with us : and so we find ourselves unable to know their existence no more than their non-existence”
(ibid.)

Pascal reckons he would rather be wrong in his beliefs, than be doubtful and later find out they were true all along...

”written by someone who has gone or their knees, then and now, to pray to that infinite and part-less Being” (ibid.)

[Cousin had correctly described Pascal’s situation by describing his faith “hard won”, and remaining “full of doubts”.⁶]

III - Connected topics : eternity, nothing-ness...

Connected to the topic of infinity can be regarded those of eternity, and, analogous ones like nothing-ness (“*rien*”, “*neant*”).

⁶Cousin 1842 : 189.

*“The way humans [Men] live their lives is fully unreasonable;
 take those who go through life without ever asking about the end
 terms of life, devoid of anxieties, reflections;
 letting themselves be guided by their inclinations and own pleasures
 [alone];
 as if they could annihilate eternity by turning their thoughts away,
 and thinking only of their momentary happiness.
 Notwithstanding, this eternity exists, and death, which shall open it
 [for them]...”*

195 B

Thoughts of this type appear regularly in connection with Pascal’s critique of entertainment (“*divertissement*”), which he regarded as Man’s escape from misery, and simultaneously “their greatest misery”...⁷

Interestingly they also appear in connection with probabilities :

Manuscript p 7

*”If there was an infinite amount of happy lives to win... : everywhere
 where there is infinity... one should not [weigh odds] [”balancer”],
 one must bet everything [”il faut tout donner”]”*

⁷‘Post-modernist’, media philosophers either read Pascal very closely in their youths or lived in the ignorance of reliving a 17th c. moralist’s ideas...

IV - More beautiful things

*"hard ... to await the arrival of such beautiful and desirable things,
so go ahead and think about them, solve them"*

Pascal wrote back to Fermat in a short letter from 1654; Pascal who by that time had possibly already moved on to his own problems. [‘These problems are “far away” from me’, “bien loin”, he commented.]⁸

In the same way that some problems accompany mathematicians for long periods if not their entire lives, this last problem of infinity would be that of Pascal.⁹

Pascal never entirely abandoned mathematics : from the study of triangles to the later mature contemplations on God, there was more continuity than breach – and more than some may find convenient.

⁸27th of October. A remarkably brief, polite answer to a numerical problem exposed by F.. (Possibly his last before settling in Port-Royal.)

⁹We think of Fermat’s ‘Last Theorem’, or Yitang Zhang (whose life and journey in mathematics contains more philosophy than any philosophy book published in this century...)

Bibliography, partial.

B : II - 44, 69, 74 127, 140, 141, 422; infinite 128...

L : Series II