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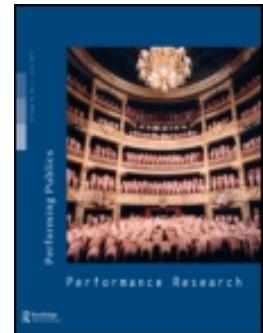
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The Analysis of Infinitely Small Things: Research Report

The Institute For Infinitely Small Things

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The Analysis of Infinitely Small Things

Research Report

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The Analysis of Infinitely Small Things (2004-present) is the founding research initiative of the Institute for Infinitely Small Things, a research organization whose mission is to invent and distribute new practices of political engagement in everyday life. The Institute engineers beginnings - tiny perceptual events that may impact how one operates in the world but may just as likely have no effect whatsoever.

For the Analysis of Infinitely Small Things, the Institute developed a guidebook and an experimental performance framework for the collaborative collection of infinitely small things. The instructions for finding infinitely small things are generic and can be repurposed for any space so long as the participants speak English. Members of the public are invited to join the Institute on field expeditions or to download a kit online and conduct expeditions for infinitely small things in their locale.

The project invariably produces the question, 'What is an infinitely small thing?' from its public participants. In certain ways, if that question is asked then the project has already succeeded. It is an impossible question (the answers 'nothing' and 'everything' come to mind). Nevertheless, rather than answering the question directly in speech, the Institute asserts that the question can be answered pragmatically and concretely, through embodied inquiry. The Analysis of Infinitely Small Things poses problems to the public (such as 'FIND THE

OTHER SIDE') that can only be resolved through performance and experimentation.

The project consists of three major phases:

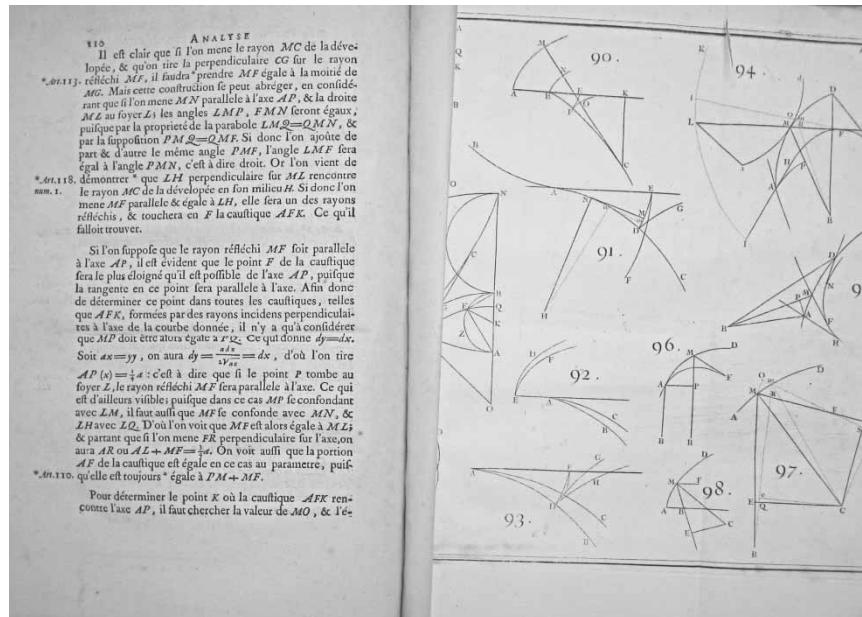
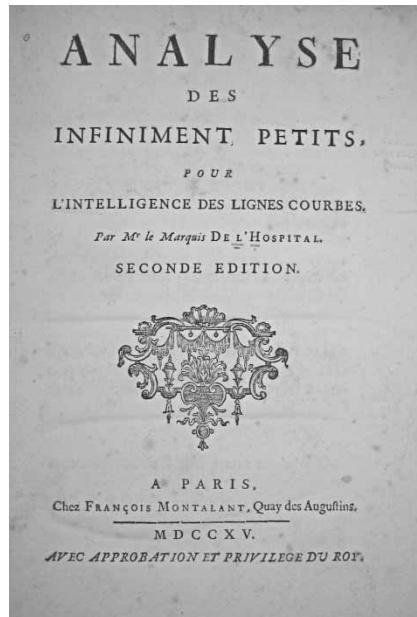
1. Guidebook Development
2. Field Expeditions
3. Internet Archives

1 GUIDEBOOK DEVELOPMENT

Upon undertaking the project in January 2004, the research team determined that a guidebook for finding infinitely small things was essential.

We used the first calculus textbook, *L'Analyse des Infiniment Petits*, by M. le Marquis de l'Hôpital, as a starting point for our investigations (Fig. 1). Though the first edition of this book was published in 1696, this later edition still represents a significant educational opportunity for studying 'infiniment petits' or, as they are referred to when poorly translated from the French, 'infinitely small things'. The Marquis elaborated on many interesting quandaries of early calculus, which necessitated the use of infinitely small things and other paradoxical mathematical solutions. For example, what is the result of a number divided by zero?

To make our contemporary guidebook, we replicated the pages of the original textbook on overhead transparency paper and bound it using Scotch® tape and Saran Wrap®, common household materials known for their archival exactitude. This formed a scrolling guidebook, a convenient, linear way for navigating the pages of the text.



Because the primary audience for the guidebook is English-speakers in the United States, the team spent over two weeks translating key portions of the text into instructions in English. As with the translation of the title of the book, we favored potentiality for affect over the precision of the translation. For example, a sentence in French such as '*Pour l'autre partie, qu'on appelle Calcule intégral, & qui consiste à remonter de ces infiniments petits aux grandeurs ou aux touts dont ils font les differences; c'est-à-dire à en trouver les sommes, j'avois aussi dessein de le donner*', translated to the English instruction 'FIND ANOTHER PARTY' (Fig. 3).¹

Translating in this way condensed a great deal of information to a single instruction for finding infinitely small things. Brevity was a key criterion for the guidebook, as all of the instructions needed to be employed in concrete, real-life situations. Overall, there are 384 instructions in the book. Here is a sampling:

- FIND AN ENTIRE CURB
- FIND A BACKWARDS POSITION
- FIND A SPACE PRECEDING THIS ONE
- FIND WHAT YOU JUST FOUND
- FIND A REVERSED SITUATION
- FIND A THING WORTH REMARKING
- FIND HALF A STYLE
- FIND A VALUE ENTIRELY KNOWN
- FIND A PROBLEM
- FIND A NEW WAY OF SERVING YOURSELF
- FIND THREE MONTHS FROM NOW
- FIND COPIES
- FIND ALL THIS PERFECTLY AGREEABLE

2 FIELD EXPEDITIONS

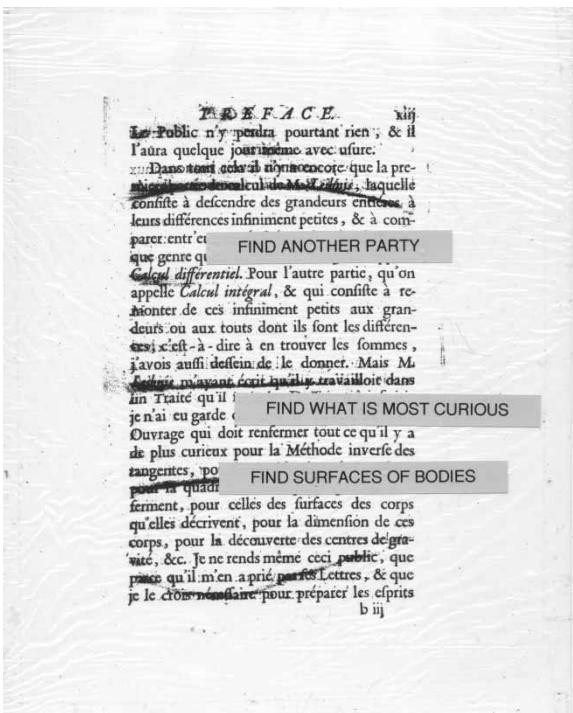
Phase Two of the project began in March 2004, with a series of field expeditions in which members of the public were invited to take part. For this phase of the project, the research team was interested in how members of the public utilized the guidebook to find infinitely small things (and whether, indeed, they could *use* the guidebook at all). Up to this writing the Institute

• Figure 1. Cover page of *L'Analyse des Infiniment Petits*, Second Edition. Published in 1715, this was the first textbook on calculus.

• Figure 2. L'Hôpital's rule outlined what happens to puzzling, indeterminate forms such as $0/0$ and $\frac{\infty}{\infty}$.

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¹ All of the instructions created can be found at: <http://www.ikatun.com/k/ininitelysmallthings/instructions.php>.



• Figure 3. The research team translated from the French into abbreviated English instructions.

• Figure 4. The guidebook to find infinitely small things, made from calculus texts, Scotch® tape and Saran Wrap®.

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has conducted eight such field expeditions in locations ranging from the Massachusetts Museum of Contemporary Art in North Adams, Massachusetts, to an eighteenth-century weaving factory in Pittsboro, North Carolina.

The goal of each expedition is to collect research samples of infinitely small things for the archive. During each expedition, the Institute unrolls the scrolling guidebook and sets up an area with tools for finding infinitely small things in the area. These tools include magnifying glasses, tweezers, protective gloves and garments, and clipboards (Fig. 5).

In order to collect field research, the team prepared a special form that captures the date, time and location of collection of the infinitely small thing. Participants take these forms, choose one instruction to follow from the guidebook and proceed to attempt to collect a physical sample of the infinitely small thing described by that instruction.

The Institute has collected over 500 research samples of infinitely small things through the

field-expedition process. Each sample details what kind of infinitely small thing was found, when it was found and how it relates to the original instruction from the guidebook.

Thus far, the qualitative feedback that we have received from these preliminary expeditions supports the assertion that it is, in fact, possible to find infinitely small things. Using our guidebook and methodology, participants have resolved the instructions with corresponding infinitely small things in a wide variety of ways. For example, for 'FIND A REVERSED SITUATION', a group of participants outlined text as it was displayed in a mirror. For 'FIND, ETC.', a participant drew the telephone poles in that neighborhood as they marched into the distance. For 'FIND THINGS THAT ARE ALREADY KNOWN', a participant found a lottery scratch ticket that had been scratched and discarded. Members of the public reported that even after they had stopped looking for infinitely small things, they were still making comparisons in their heads as to whether a



• Figure 5. Tools used to find infinitely small things during field expeditions.
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• Figure 6. The scrolling guidebook is set up so that participants may choose which instruction to follow.

• Figure 7. On the form, the collector notes the instruction she followed and describes the thing she found using text, diagrams, objects and drawings.

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falling leaf, for example, could be considered an example of 'FIND A VOYAGER', 'FIND NATURE' and/or 'FIND AN ORDINARY PARABOLA'.

ARCHIVES

Each sample collected in the field expeditions or sent to the Institute is scanned and logged on the Web-based archive located at <http://www.ikatun.com/k/ininitelysmallthings/samples.php>. The archive becomes an important repository for past and future researchers alike. Participants from around the world can also download a free research kit from the site in order to conduct field expeditions in their locale and send the results to the Institute for Infinitely Small Things.

CONCLUSION

While Saran Wrap®, calculus and field research may seem improbable tools to use if one is inventing new ways of using public space, the Analysis of Infinitely Small Things directly facilitates experimentation with improbable paradoxes and impossible conundrums.

In their book *A Thousand Plateaus*, Deleuze and Guattari discuss how the French Revolution began not with a financial crisis (as is commonly thought). Rather, it began when peasants stopped greeting the passing aristocrats. The absence of that gesture likely went unnoticed by most of the population, but the unrest and resentment had already begun. The revolution itself began with hands that did not wave. These everyday spaces - the absolute war of a missing signal - are micropolitical, and

ANALYSIS OF INFINITELY SMALL THINGS - RESEARCH SAMPLE # 71	
INSTRUCTION:	Find the same thing in a different way
NAME:	DANNY MARTIN
DATE:	4/10/04
TIME:	2:20
LOCATION:	
DESCRIPTION:	4 I found a smile without teeth
SAMPLE:	
ANALYSIS OF INFINITELY SMALL THINGS - RESEARCH SAMPLE # 71	



• Figure 8. Field expeditions involve looking for connections between a single text-based instruction (such as 'FIND EVERYTHING ELSE') and the world around.

they are tricky. They are beginnings of whole other worlds that might also materialize to nothing. Slippery to analyze and even more difficult to engineer without looking at things retrospectively, these are the spaces of the sub-representative (not the subconscious, mind you). Things happen long before one recognizes them as things.

For this reason, the question of 'What is an infinitely small thing?' becomes an absolutely essential field of research that can only be undertaken with all of the absurdity, inconceivability and rigor that engineering the micropolitical entails. The Analysis of Infinitely Small Things is about the production of this question and the creation of infinite ways of answering it. While it functions at the edge of impact (possibly doing nothing at all), each research

sample leads to solving a quasi-impossible problem with a concrete, embodied way of looking differently and seeing otherwise. And this is already a beginning.

REFERENCES

- Deleuze, Gilles and Guattari, Félix (1987) *A Thousand Plateaus: Capitalism and Schizophrenia*, Minneapolis: University of Minnesota Press.
l'Hôpital, Le Marquis de (1715 [1696]) *L'Analyse des Infiniment Petits*, Paris.

• Figure 9. The project's archive and a downloadable research kit is available online at <http://www.ikatun.com/k/ininitelysmallthings/>

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