



Turun yliopisto  
University of Turku

**KNOWLEDGE TYPES, SCIENTIFIC  
RESEARCH AND TECHNOLOGICAL  
DEVELOPMENT**

**Maria Höyssä**

**EU-SPRI Early Career Researcher  
Conference**

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# STRUCTURE OF PRESENTATION

**Research gap**

**PART I: Ingredients**

**PART II: Novel framework**

**PART III: Contribution**



# RESEARCH GAP



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# A KNOWLEDGE GAP: THE ROLE OF SCIENTIFIC KNOWLEDGE IN KNOWLEDGE-BASED REGIONAL ECONOMIC DEVELOPMENT

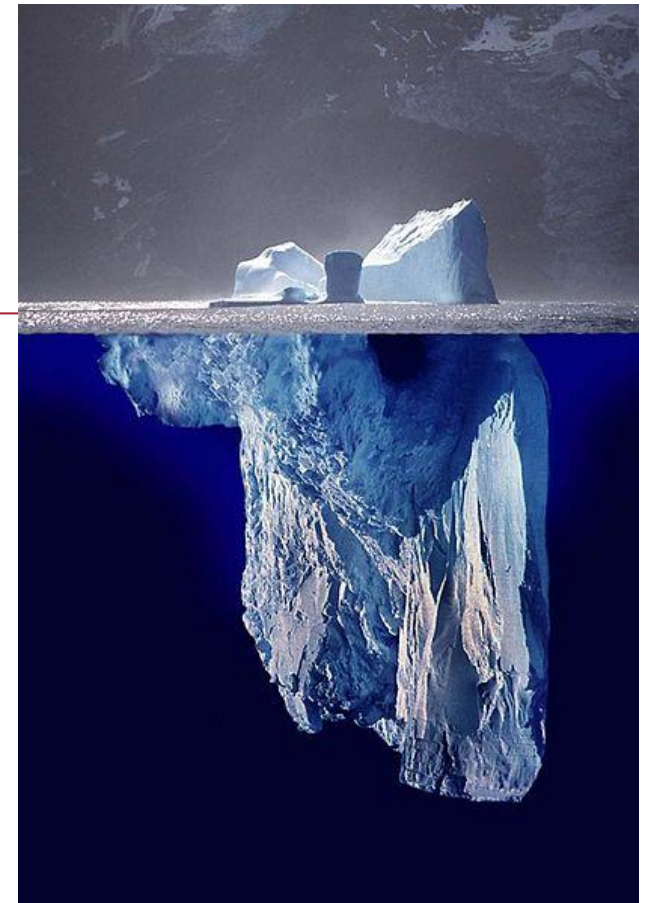
What economic geographers  
have to say about knowledge?

EXPLICIT KNOWLEDGE

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TACIT KNOWLEDGE

...Does not help to study how science actually  
contributes to technology development





# **CONCEPTUALIZING THE RELATION OF SCIENTIFIC KNOWLEDGE CREATION AND TECHNOLOGICAL DEVELOPMENT**

## **PART I**

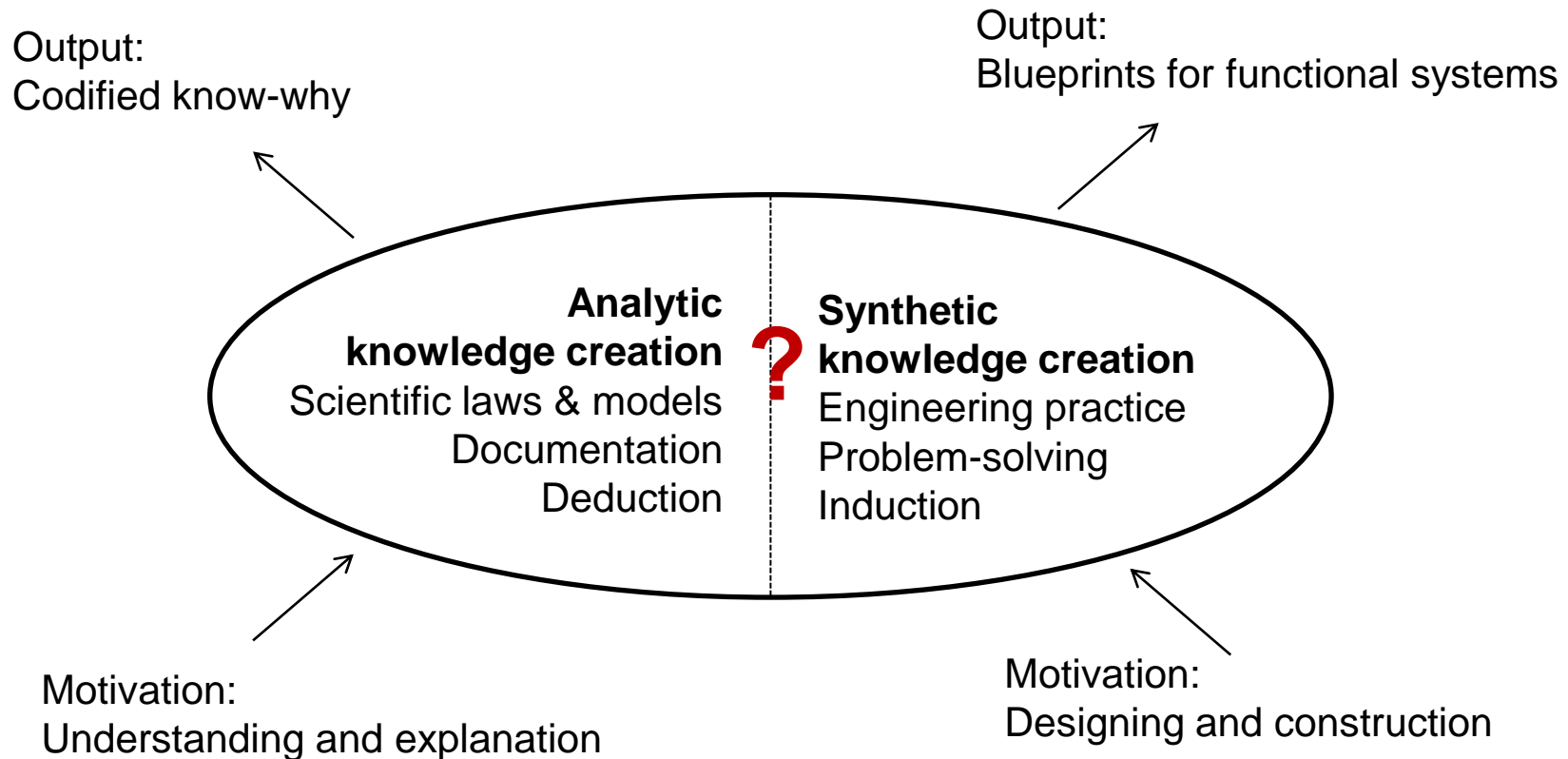
### **THE INGREDIENTS**



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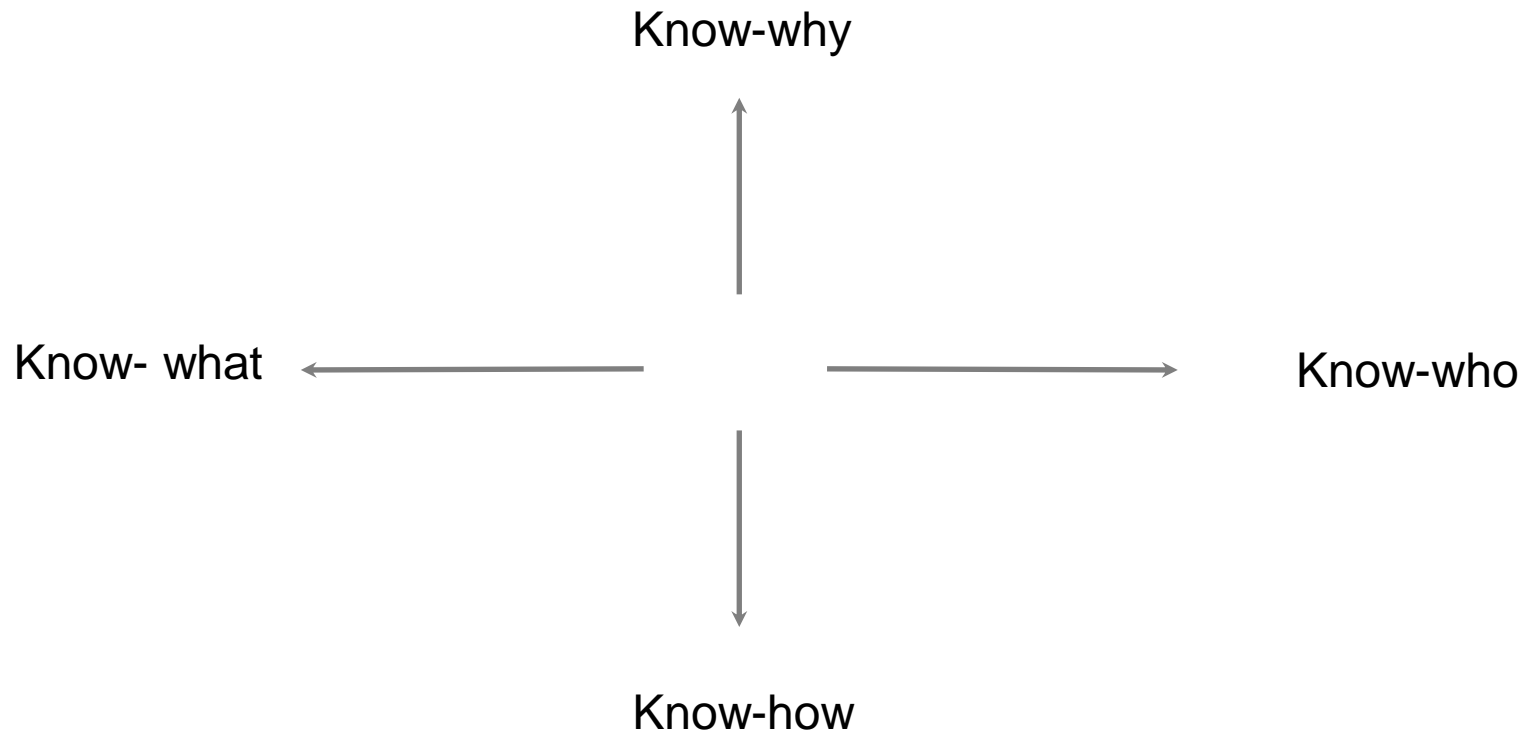
# ANALYTIC AND SYNTHETIC INDUSTRIAL KNOWLEDGE BASES

(Own illustration, based on Asheim & Gertler 2005; Moodysson, Coenen & Asheim 2008)



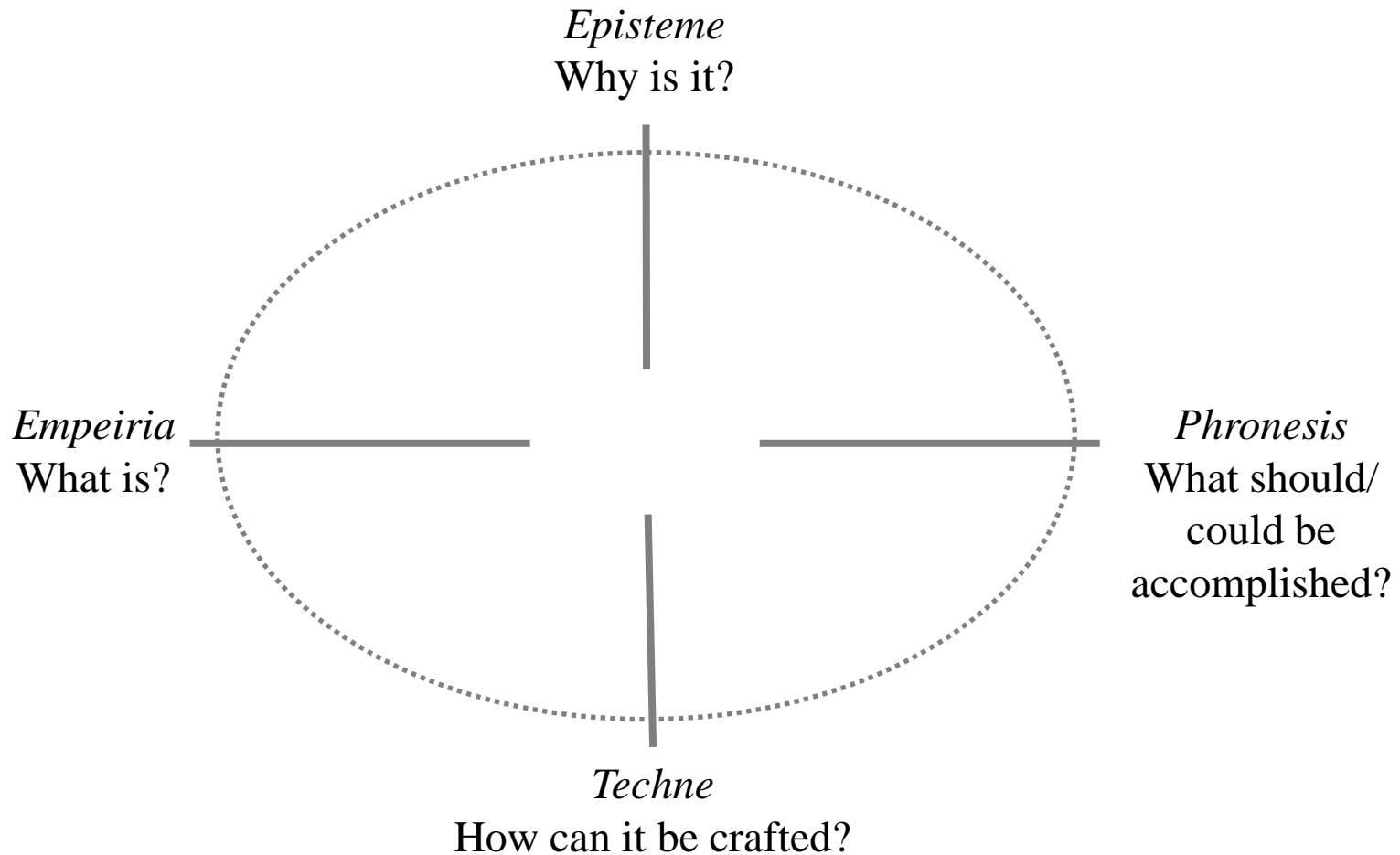


# LUNDVALL & JOHNSON'S (1994)<sup>7</sup> KNOWLEDGE TYPOLOGY





# DISPOSITIONS TO KNOWING BY ARISTOTLE





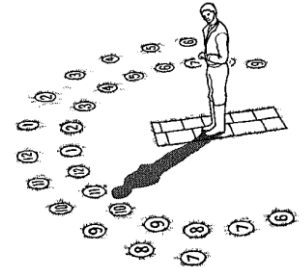


# THEORY OF INVENTION (ARTHUR, 2007)

Different principles for producing constant movement/ pulse that is necessary for measuring the passage of time:

Invention is a process of linking some **purpose** or need with an **effect** that can be exploited to satisfy it

A new (radically novel) technology: one that achieves a purpose by using a new or different base **principle** than used before (Arthur, 2007)





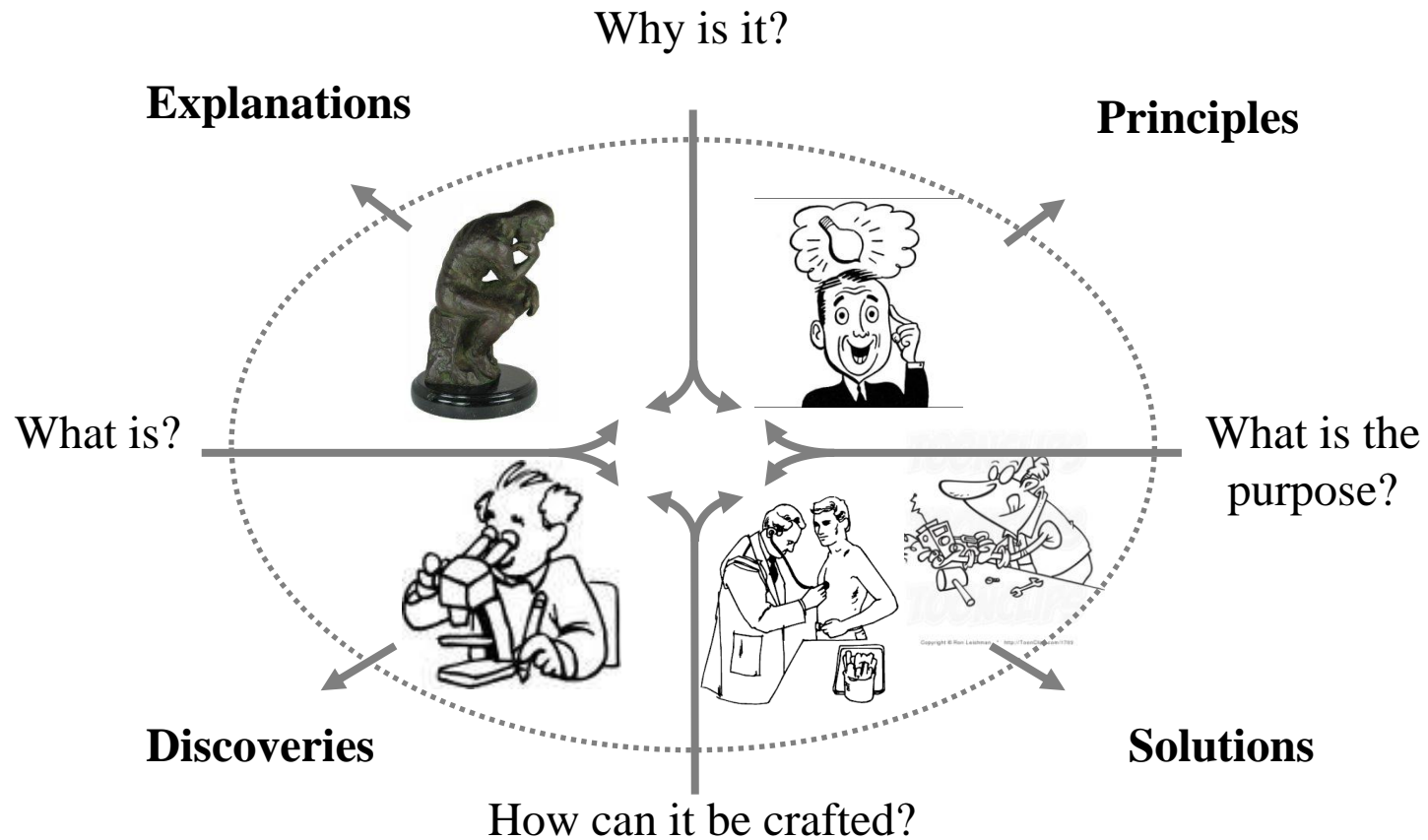
# **CONCEPTUALIZING THE RELATION OF SCIENTIFIC KNOWLEDGE CREATION AND TECHNOLOGICAL DEVELOPMENT**

## **PART II**

### **COMBINING THE INGREDIENTS INTO A FRAMEWORK**

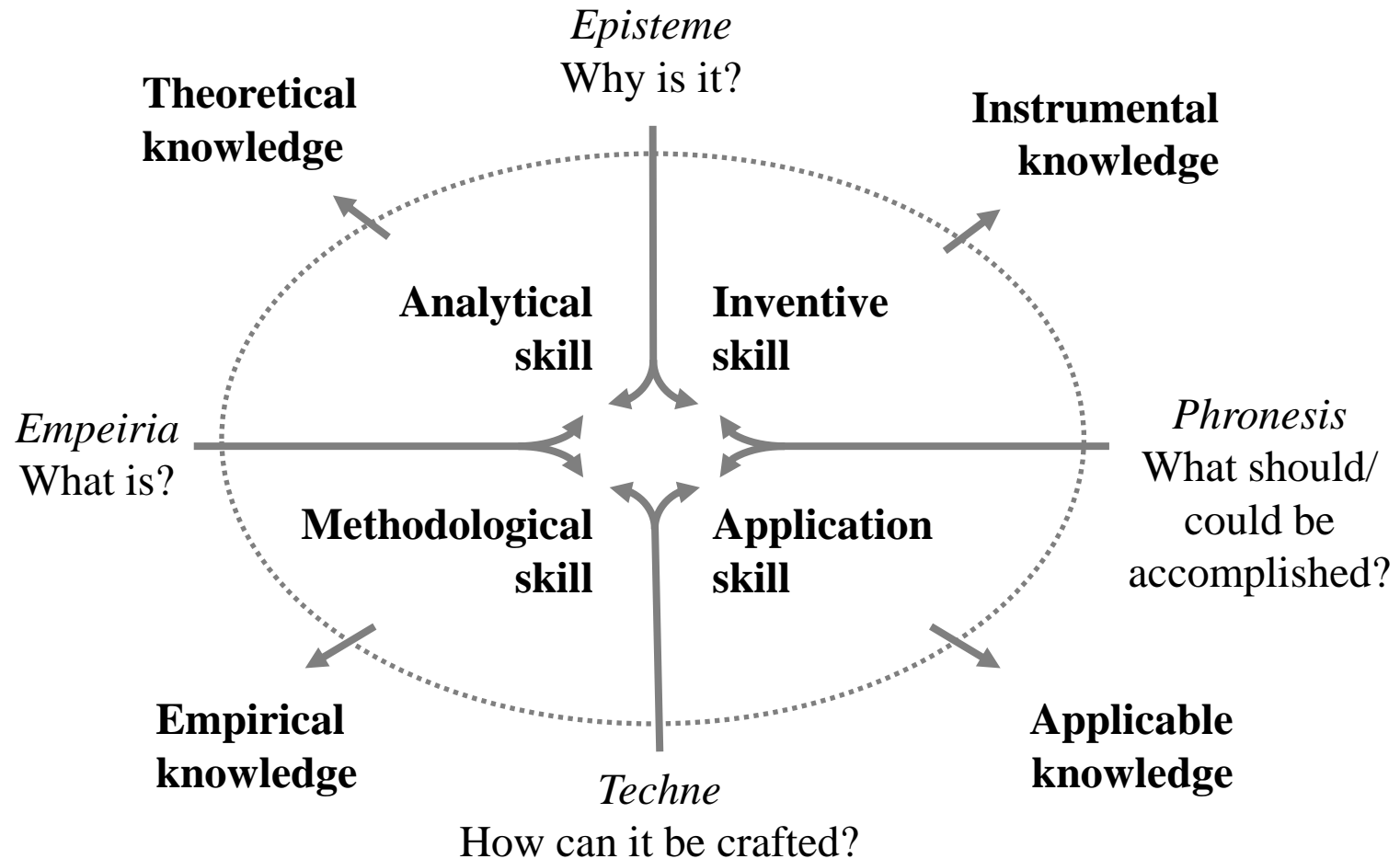


# WHAT HAPPENS WHEN SCIENTISTS PARTICIPATE IN TECHNOLOGICAL DEVELOPMENT?





# RESULT: DIFFERENT TYPES OF SCIENTIFIC KNOWLEDGE





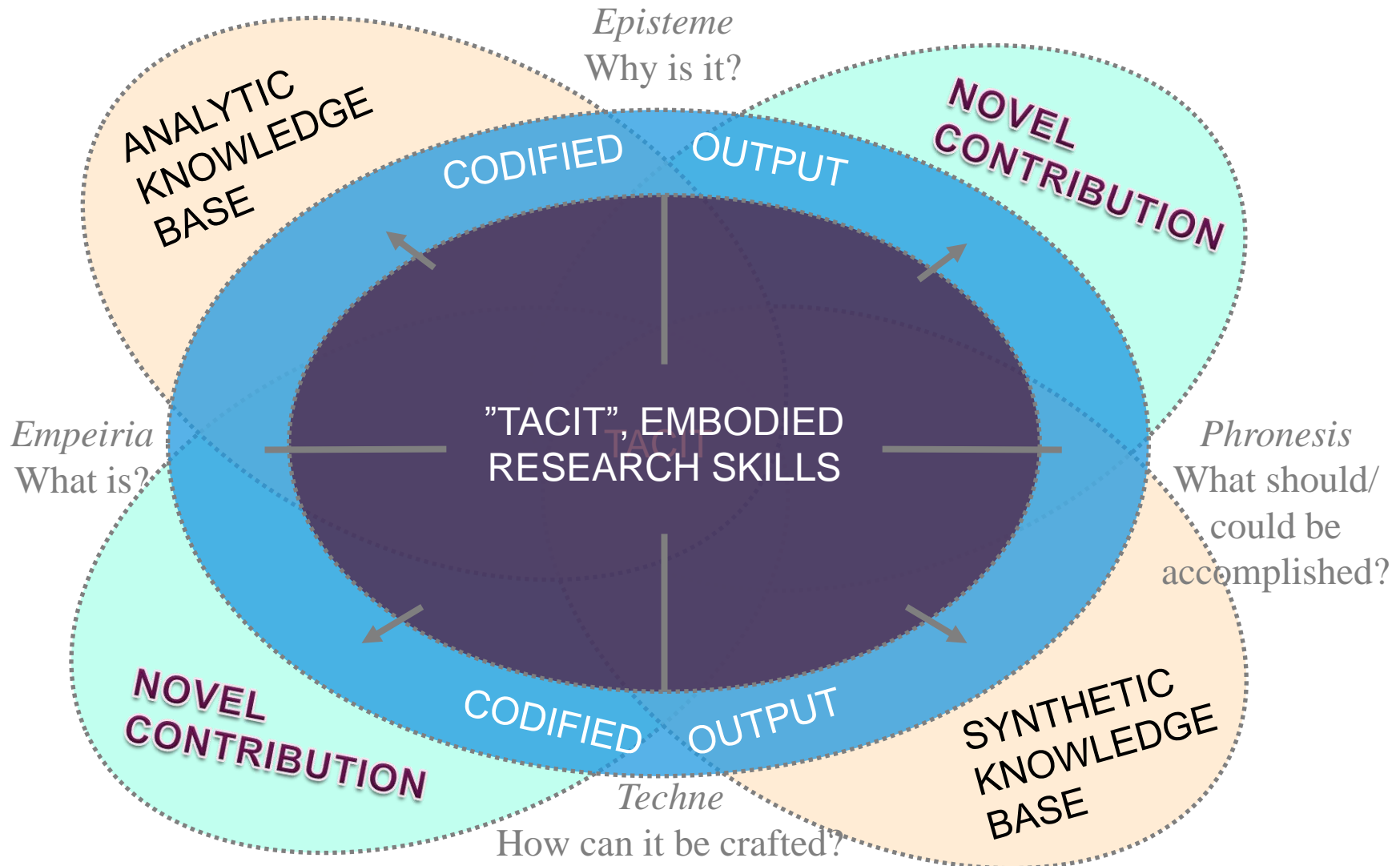
# **CONCEPTUALIZING THE RELATION OF SCIENTIFIC KNOWLEDGE CREATION AND TECHNOLOGICAL DEVELOPMENT**

## **PART III**

### **CONTRIBUTION**



# CONCEPTUAL CONTRIBUTION VIS-A-VIS DIFFERENTIATED KNOWLEDGE BASES

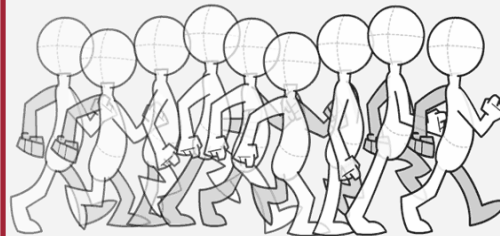




# THE FRAMEWORK ENABLES STUDYING...



...the embodied  
(skills) and  
situated (sites  
of methods &  
applications  
development)  
aspects of  
scientific  
knowledge  
creation



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...what moves  
when  
knowledge is  
"transferred"



...how research  
contributes to  
analytic and  
synthetic  
phases of  
innovation





**THANK YOU FOR YOUR ATTENTION**

maria.hoyssa@utu.fi



