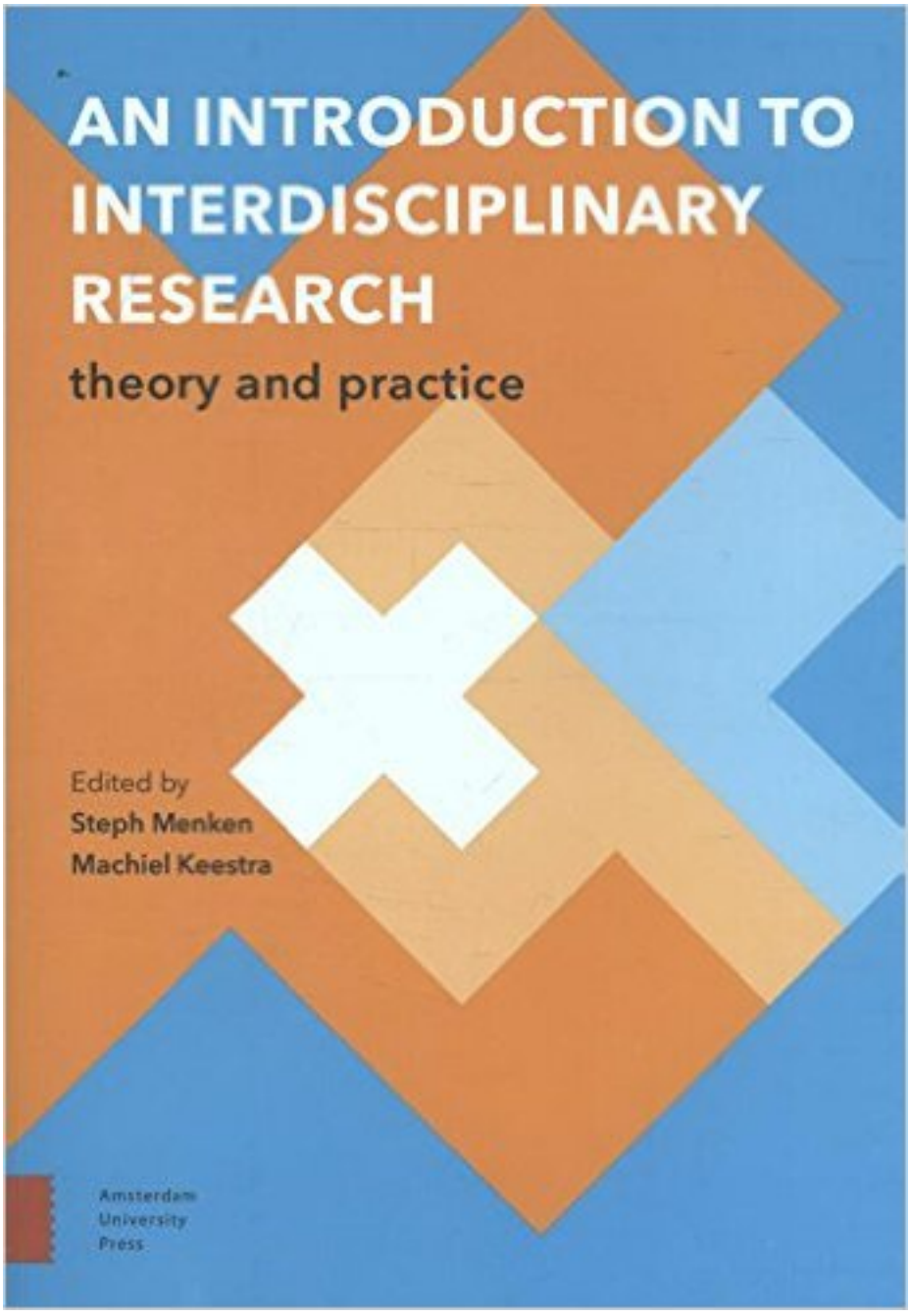
AN INTRODUCTION TO INTERDISCIPLINARY RESEARCH
theory and practice
Edited by
Steph Menken
Machiel Keestra
Amsterdam University Press

An Introduction to Interdisciplinary Research

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Volume 2 of the Series Perspectives on Interdisciplinarity

Cover design and lay-out: Matterhorn Amsterdam

Amsterdam University Press English-language titles are distributed in the US and Canada by the University of Chicago Press.

ISBN 978 94 6298 184 3
e-ISBN 978 90 4853 161 5
NUR 100

Contents

Preface

An Introduction to Interdisciplinary Research is a handbook on interdisciplinarity and its background, and a manual on conducting interdisciplinary research for undergraduates and beyond. Although several books have been written about interdisciplinary research, providing rich theoretical descriptions of and hands-on approaches to the topic, this handbook is a more condensed resource focusing on students in the social and natural sciences. The most relevant comparison can be drawn with Allen Repko's seminal *Interdisciplinary Research: Process and Theory*, 2nd ed. (2012). Repko's book served as an important source of inspiration and information for us. Having used Repko's book for several years in our interdisciplinary research seminars, we felt the need for another book that would differ in several respects from Repko's valuable book. As a result, our book mainly focuses on European students, whereas Repko's book seems to be primarily addressing undergraduate students from institutions in the US and Canada. This is why our book primarily contains examples of research carried out in Europe. Furthermore, we focus on students with majors in the social and natural sciences and less on those who major in the humanities or liberal arts and sciences. We have also included a thorough description of complexity, which we and others consider to be a main driving force behind interdisciplinarity. However, the most significant difference to Repko's manual concerns size. We explicitly aimed to produce a more condensed book that is practical, to the point, and clear.

The book is divided into three parts. The first part – *The Handbook* – gives a brief overview of interdisciplinarity and provides fundamental information about the origins of interdisciplinary research, what it entails, when it can be applied, and why it should be applied. The second part of the book – *The Manual* – focuses on the step-by-step process and sets out instructions on how to undertake interdisciplinary research. The third part contains a model example of an interdisciplinary project and the career stories of some interdisciplinary scholars.
Many questions surround interdisciplinary research. How does it differ from disciplinary research? What does it demand from the interdisciplinary researcher? What potential does it have that disciplinary research does not offer? It is important to note that interdisciplinary research builds on disciplinary research. When dealing with complex problems, a merely disciplinary approach will not suffice. Such problems necessitate an interdisciplinary approach when scientifically and socially robust answers are sought.

The interdisciplinary research process is not an easy journey. In fact, it is a challenge for undergraduate students and experienced senior researchers alike. The aim of this book is to make the process more accessible. We provide many examples of interdisciplinary research projects, obstacles that researchers encounter during their academic journey, and the solutions they came up with. Moreover, we interviewed researchers who are experienced in applying an interdisciplinary approach, and we share their expert insights.
It would have been impossible to write this book without the contributions of the experts, lecturers, students and other individuals affiliated with the IIS at the UvA. We hope that you enjoy it, that you will learn a lot while reading it, and that you put the insights obtained into practice. We also welcome your feedback, so if you come across mistakes, or have suggestions to improve it, please get in touch with us via L.degreef@uva.nl.

Chapter guides

The first part of the handbook begins with a short introduction to the main topic of the book (chapter 1). Next we give an explanation of what science actually is; in other words, we will dive into the philosophy of science (chapter 2), after which we define what an academic discipline is, and provide a description of the historical development of the current disciplinary structure of the academic system (chapter 3). We then describe how this division into disciplines evolved (also in chapter 3), and thereafter we move on to define multidisciplinarity, transdisciplinarity, and interdisciplinarity (chapter 4). This is followed by an overview of the most relevant drivers of interdisciplinary research, which, in our view, share one characteristic: complexity (chapter 5). Part 1 concludes with a feature that is unique to interdisciplinary research: the integration of disciplinary insights at different levels (chapter 6). This is where interdisciplinary research differs from multidisciplinary research.
After reading part 1, you should have acquired enough knowledge to start your own interdisciplinary research project. Part 2 will guide you through this process by means of a model for interdisciplinary research introduced in chapter 7. It points out where monodisciplinary and interdisciplinary research approaches differ, and gives a step-by-step explanation of the process from the problem definition (chapter 8), the formulation of the research question (chapter 9), and data collection and analysis (chapter 10) to the discussion and conclusions (chapter 11).
Then, in part 3 (chapter 12), we start with an example of an interdisciplinary research project following the steps of our model, introduced in part 2. Furthermore, we share the stories about the careers of four interdisciplinary scholars in chapter 13.

Part 1
The Handbook
'The What'

1 Introduction

Half a century ago, philosopher of science Karl Popper (1963) famously observed: "We are not students of some subject matter, but students of problems. And problems may cut right across the boundaries of any subject matter or discipline." This statement has become increasingly relevant. Today, many of the phenomena and problems that we are trying to understand and solve indeed 'cut across' the traditional boundaries of academic disciplines. Modern technological developments and globalization add to the complexity of problems and, in response, we are becoming increasingly aware that an integrated approach is necessary. Healthcare, climate change, food security, energy, financial markets, and quality of life are but a few examples of subjects that drive scientists to 'cross borders' and engage with experts from multiple fields to find solutions. In short, complex questions and problems necessitate an interdisciplinary approach to research.

Most real-life problems are multifaceted, in that they have multiple types of causes and determining factors. These different types of causes and determining factors often have to be addressed in different ways with different disciplinary methods. We know from research, for example, that alcohol intake is involved in over half of the violent acts that take place in the public domain. However, the relationship between the intake of alcohol and aggressive behavior is much more complex, and different disciplines have different perspectives on this relationship, as you can see in figure 1. Each discipline's focus is on another factor (in this case either nurture- of nature-related) at a different level of analysis, using different theoretical frameworks, and different methodologies.

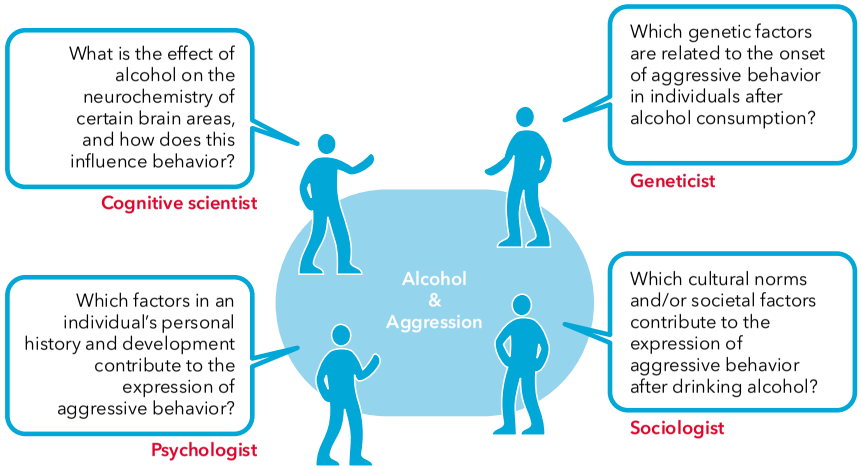

Figure 1 Different perspectives on the relationship between alcohol intake and aggression

Another example of a multifaceted problem is the financial crisis. Over the past five years, academics from different disciplines have tried to explain what caused the global economic recession. These disciplinary explanations, however, only shed light on part of the problem. When combined, they may offer a more comprehensive explanation, as you can see below in figure 2.

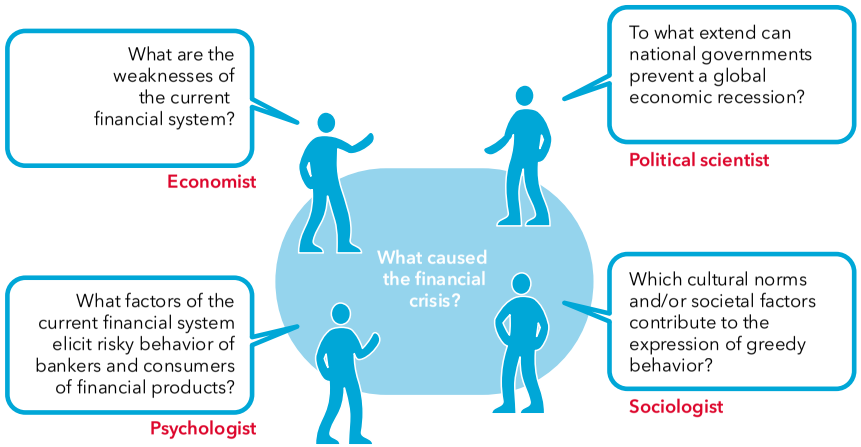

Figure 2 Different perspectives on the causes of the financial crisis

The previous examples illustrate that knowledge is, to a large extent, generated within separate disciplines (see also box 1). Consequently, in interdisciplinary research we need these disciplines to provide insights into different aspects of our research problem. So, before we turn the focus to interdisciplinarity, it is essential to understand what an academic discipline is. For this, it is useful to understand the origins of academic disciplines, as well as their development. In the following chapter, we define the academic discipline before providing an overview of the discipline's inception and expansion throughout the science system and beyond. This is followed by a definition of the concept of interdisciplinarity and important related concepts (chapter 4). Chapter 5 focuses on the importance of complexity as the driving force behind interdisciplinarity, and provides an overview of the different manifestations of complexity. Finally, chapter 6 provides a description of the integration of disciplinary knowledge to produce new, interdisciplinary insights (see the example below on an interdisciplinary theory on poverty), which is the key feature of interdisciplinary research.

Box 1

An interdisciplinary theory on poverty

Eldar Shafir and Sendhil Mullainathan, respectively Professor of Psychology at Princeton and Professor of Economics at Harvard, developed an interdisciplinary theory on poverty. Their theory, published in the book *Scarcity – Why Having Too Little Means So Much*, was praised both in and outside academia.

The starting point for their research was the finding that poor people generally make bad decisions. Compared to middle-class people, poor people eat less healthily (even when healthy food is made available to them), take out loans with high interest rates more often, and are generally bad at taking long-term effects into consideration. However, as Shafir said: "No one was studying why poor people are making these bad decisions" (E. Shafir, pers. comm., 12 December 2013).

Shafir and Mullainathan started to connect findings from their disciplines. They found that the bad decisions poor people make are actually well researched in psychology. For example, poor people were discounting the future and showed loss aversion in their decisions, two effects known from research on decision-making. The question the researchers then investigated was: Why are poor people more prone to these effects than others?

In their experiments, they found that psychological traits like bad character or low intelligence could not explain why poor people made more bad decisions than people with more financial resources. Instead, Shafir and Mullainathan came up with another explanation: It is often a person's context that dictates whether someone can make a good decision. Shafir again: "Slowly came the realization that many of the mistakes made by the poor are caused by poverty itself."
In their book, the researchers explain that when someone experiences scarcity – whether it is a lack of money, friends or time – this shortage 'captures' that person's mind. Her mind will intentionally and unintentionally deal with scarcity, and this leaves less cognitive capacity for other things, such as making a good decision.

2 What is science? A brief philosophy of science

2.1 What is science?

In the previous chapter we quoted philosopher of science Karl Popper, who contended that solving a problem often requires the integration of insights that pertain to different subject matters or disciplines. Popper observes a certain tension between the way that scientific disciplines are organized and how problems present themselves. Indeed, interdisciplinary research is a way to overcome this tension and to organize scientific research in such a way that it is not impeded by the organizational structure of the sciences itself. Since it is important to understand both the value and the limitations of this organizational structure, we need to briefly reflect on what science is and does. In other words: let us reflect on some basic ingredients of science, the way philosophers of science do. There are many ingredients that appear to be familiar enough, though perhaps not easy to understand, such as theory, concept, fact, hypothesis, explanation, inference, induction, deduction, and so on. Given the limitations of this handbook, we will only pay attention to a few of these and recommend you to look elsewhere for a more comprehensive introduction to the philosophy of science.

Scientists work hard to understand the world or reality, in much the same way as lay persons do. In fact, scientists cannot help but do this by building on the same pillars as we all have to. They have to rely upon sense perception in order to draw upon information about the world available and they have to use reasoning in order to draw the right conclusions about this information and to avoid mistakes. Nonetheless, if one reads scientific texts, it immediately becomes apparent that there are striking differences between scientific and lay efforts to reach an understanding of reality. Scientists do not usually rely on just their senses as lay persons do, but rather use a variety of instruments to perceive more, smaller, larger, and different objects than lay persons do: microscopes, structured interviews, telescopes, fMRI scanners, validated questionnaires, participatory observations, archive research, and so on. Similarly, their reasoning and arguments are often quite different from those of lay persons, as they work with rather specific concepts, propositions, formulas, figures, tables, and schemes and tend to strictly follow the laws of logic in connecting those. Put differently, they work with large and complex collections of symbols, all arranged in a quite particular structure.

Apart from the fact that scientists rely upon sense perception and reasoning in ways that are not common to the average lay person, but use quite specific instruments and methods, there is another fact that is peculiar to how scientists operate. One of the greatest scientists, Isaac Newton, once wrote in a letter to a colleague that "If I have seen further, it is by standing on the shoulders of giants." This remark reflects how scientists build upon each other's work, aim to put each other's work to the test, to expand the knowledge that others have produced, to use that knowledge in new applications, or to prove that their colleague's conclusions are not correct and that adjustments are required. In other words, much more than lay persons, a scientist is expected to be well informed about the relevant insights, results, instruments, and methods that other scientists have been and are using – relevant for answering the questions that the scientist is asking. Obviously, what is relevant for answering a particular question is often not easy to determine: a connection to a previously-held irrelevant factor might be established when new research has been executed and new instruments and methods have been developed, for example.

Employing highly elaborate forms of sense perception and reasoning, and building upon the relevant work of other scientists: these are important features that distinguish the scientists' acquisition of knowledge from the way lay persons operate. We can elucidate these features by looking at the figure below, which presents what is called the 'empirical cycle' or the 'Science Cycle': a process that represents how scientists go about when acquiring knowledge.

2.2 Moving through the Science Cycle

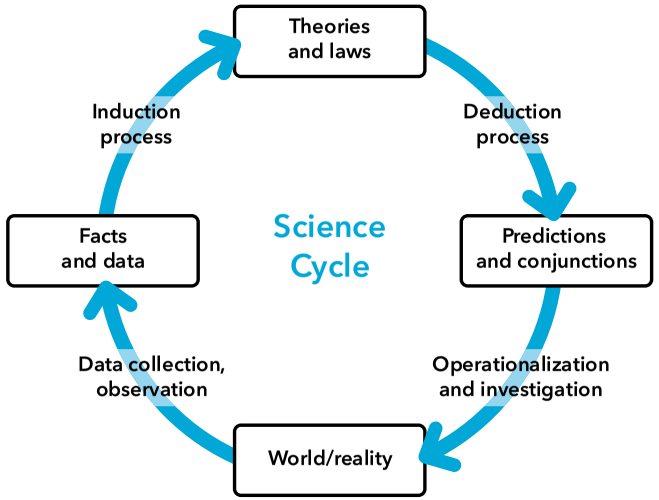

Figure 3 *The Science Cycle, consisting of four processes, connecting four components – together providing a (somewhat simplified) representation of science as an ongoing process. Note that reasoning and sense perception are present, albeit in specific ways.*

Theories and laws

The top of the Science Cycle (figure 3) consists of the most important component of science; that is to say, theories and laws. A theory consists of concepts, principles, ideas, or statements that together provide a comprehensive background or framework within which other ingredients of science are located. Familiar examples of theories are the theory of relativity, the theory of evolution, the behaviorist theory of learning, the structuralist theory of meaning, or the theory of plate tectonics.

In general, a theory offers a framework that usually captures the result of years of studies by numerous scientific colleagues, who have accumulated a wealth of facts and insights into a particular phenomenon. The theory offers elements that can be used to explain and predict phenomena that belong to the scope of the theory. If phenomena are complex, such as cognitive or social phenomena, it is likely that multiple theories are applicable to specific features of such phenomena: genetic, developmental, social, and geographical features might all be somehow relevant and might require interdisciplinary integration for a robust prediction and explanation, as we will learn in part 2. It is important to realize that there is a difference between the areas of research with regard to the prevalence and importance of specific theories. Physics is dominated by a few theories and a host of specific laws connected to those theories, while in the social sciences and humanities there are many competing theories but also many insights that have not been published in terms of a 'theory'. Given the fact that social, cultural, and historical phenomena are very complex and dynamic, this lesser prominence of theories in those domains should not be surprising, as such phenomena can usually be partly elucidated from multiple perspectives.

In many – though not in all – cases, we consider laws as part of a theory: for example, the law of gravity and several laws of motion belong to the theory of classical mechanics formulated by Newton. Somewhat differently, the Mendelian laws of inheritance are now part of the theory of classical genetics. Note that laws of inheritance have a probabilistic character, which distinguishes them from laws from classical mechanics and many other laws. Indeed, in the life, the social, and the human sciences such probabilistic laws are more prevalent because of the more multi-causal nature of phenomena in their domains. This also underlines the importance of distinguishing between correlative relations and causal relations: as long as we do not really know what causal mechanisms are involved, we should be cautious about interpreting probabilistic relations.

Deduction and developing predictions & conjunctions

As mentioned earlier, besides sense perception, reasoning is crucial for scientists, and deduction and induction are the most prominent reasoning processes involved in science. A scientist who wants to add to a body of knowledge will start by offering new predictions from a particular theory, or from the combination of two different theories – predictions that have, until now, not been formulated or tested. Such predictions are formulated by a particular logical reasoning process, called deduction.

One can identify sub-disciplines within each of the major disciplines. For example, there are numerous specialized sub-disciplines or branches within the field of biology. Some are classified according to the level of organization they study, such as molecular biology, cell biology, or ecology. Other sub-disciplines are characterized by the type of organisms they study (e.g. botany and zoology) or their focus on a practical application (e.g. conservation biology). An overview of the various branches that can be distinguished within biology is displayed in figure 5. As their names reveal, some of the branches already combine insights from various disciplines. For example, biochemistry combines biology and chemistry, cognitive neuroscience combines cognition and neuroscience, and biocomputing combines biology and computational sciences. Such sub-disciplines can be called 'inter-disciplines', which might over time develop into separate disciplines, conforming to the features of a discipline mentioned above.

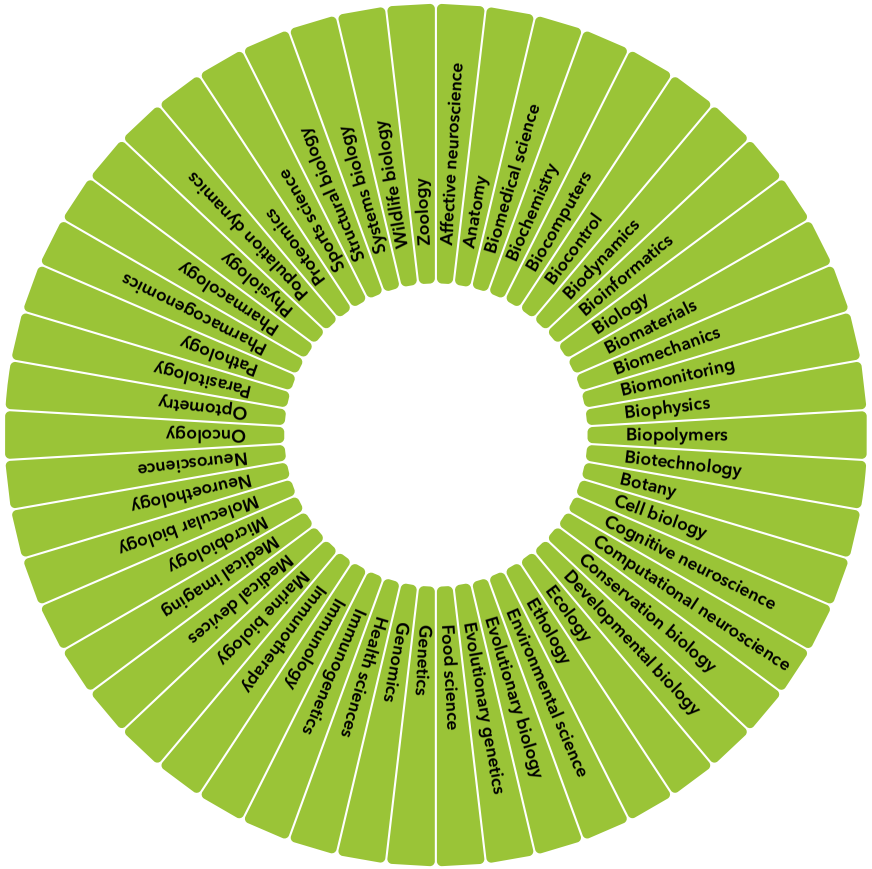

Figure 5 The many branches of biology

4 Interdisciplinarity

Now that we know what academic disciplines are and how they emerged and developed, it is time to introduce interdisciplinarity. One of the most widely used and adequate definitions of interdisciplinarity comes from the National Academy of Sciences (2005):

> Interdisciplinary research is a mode of research in which an individual scientist or a team of scientists integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge, with the objective to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.

Other definitions include those of Klein and Newell (1997), who define interdisciplinarity as "a process of answering a question, solving a problem, or addressing a topic that is too broad or complex to be dealt with adequately by a single discipline or profession [...] and draws on disciplinary perspectives and integrates their insights through construction of a more comprehensive perspective" (pp. 393-394). Interdisciplinarity has become a buzzword in scientific debates, and it has been identified by many research funding organizations in Europe and the United States as an important factor in future research. Although there is no single accepted definition of interdisciplinarity and the term is sometimes used interchangeably with multidisciplinarity and transdisciplinarity, it is important to distinguish and describe these three different manifestations of research.
The basic difference between these manifestations of research that spread beyond a discipline is the extent to which researchers aim for the integration or synthesis of (disciplinary) insights. Interdisciplinary research literally means research between disciplines, referring to the interaction of disciplines with each other. Indeed, the Social Science Research Council in New York, which first used the term 'interdisciplinary' around 1925, aimed to facilitate collaborations between the social scientific disciplines it did oversee (Klein, 1990). Such interaction may range from the mere communication and comparison of ideas, through the exchange of data, methods, and procedures, to the mutual integration of organizing concepts, theories, methodology, and epistemological principles. In multidisciplinary research, the subject under study is also approached from different angles, using different disciplinary perspectives. However, in that case neither the theoretical perspectives

nor the findings of the various disciplines are integrated. Lastly, transdisciplinary research also involves actors from fields outside of the university, thereby allowing for the integration of academic and non-academic or experiential knowledge (Hirsch-Hadorn et al., 2008).

In this handbook, we will use the following definitions:

1. Multidisciplinary research is research that involves more than one discipline, but without integration. Results from the involved disciplines are compared and conclusions are subsequently drawn from each of the individual disciplines, but there is no integration of the disciplinary insights.
2. Interdisciplinary research is research in which relevant concepts, theories, and/or methodologies from different academic disciplines, as well as the results or insights these disciplines generate, are integrated.
3. Transdisciplinary research occurs when researchers collaborate with stakeholders from outside the academic world. Knowledge from outside the academic world, as well as stakeholder values, is integrated with academic knowledge. Together, these insights determine what problem is studied and how this is done, and which interventions are selected to address the problem.

Figure 6 illustrates these different approaches to research.

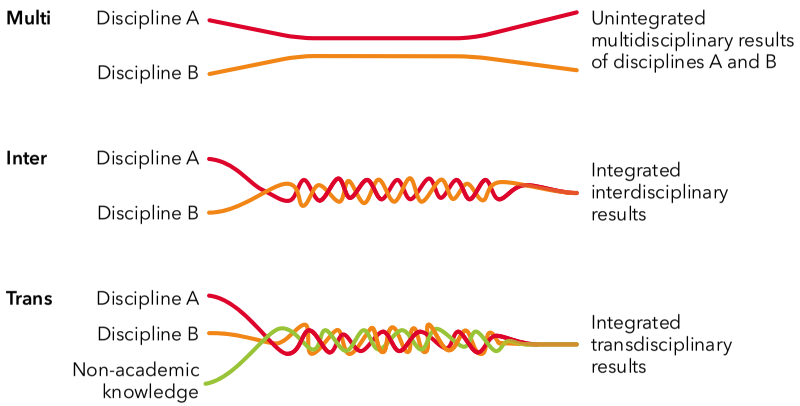

Figure 6 Multidisciplinarity, interdisciplinarity, and transdisciplinarity illustrated

Although in theory multi-, inter-, and transdisciplinarity can be distinguished, in practice researchers often switch between these approaches – sometimes within the same research project. For example, at the Dutch Research Institute for Transitions (DRIFT) researchers always go from trans- to inter- to multidisciplinarity (see the interview with DRIFT-director Dr. Derk Loorbach in chapter 13).
In the case of the alcohol and aggression research, scientists in a multidisciplinary team might shed light on the specific genetic and neurochemical and psychological factors involved, often by conducting individually highly specialized disciplinary research. A further step then consists of the interdisciplinary integration of their insights by determining a specific genetic factor that modulates the neurochemical pathway along which alcohol affects an inhibitory process in subjects. This might then lead to a transdisciplinary research project involving alcoholics and their families, aimed at developing a socially robust intervention that prevents aggression.

Part 2
The Manual
'The How'

In this part, we will guide you through the interdisciplinary research process. We begin by pointing out the different phases of this process, then describe it in its entirety and indicate which parts are of particular interest for interdisciplinary researchers. In short, we guide you through the problem and the research question, the theoretical framework, the methods and techniques of research, data collection and analysis, and finally, the discussion and conclusion. As integration is a defining characteristic of interdisciplinary research, different integration techniques that were briefly introduced in chapter 5 will be illustrated with examples of previous student research projects.
The steps you need to take to complete an interdisciplinary research project might overwhelm you. As an undergraduate, for example, you might not feel comfortable dissecting the theoretical background of your own discipline. But do not be discouraged: you will find that after going through the process a couple of times, you will increasingly feel at ease being an interdisciplinary researcher. All beginnings are hard, to some degree. But when you have the right mindset and attitude, you will succeed!

7 The interdisciplinary research process

Although there are a lot of similarities between the disciplinary research process (with which you might already be familiar) and the interdisciplinary research process, there are some additional questions to answer, steps to perform, and challenges to overcome with regard toin the latter. We have therefore developed a model for doing interdisciplinary research (see box 5 and figure 9). Building on this model, we describe the different stages of the research process and the additional challenges interdisciplinary researchers are facing.
In part 1, we mentioned several drivers of interdisciplinary research, among which the inherent complexity of nature and society and the need to solve societal problems. However, in a student project you might not be pressured by such a driver to conduct interdisciplinary research, as the starting point may be different from academic research in practice. In some cases, students form a research team on the basis of their different educational backgrounds, and then collectively formulate a subject or a problem to investigate. Although the drivers described in part 1 might cover the problem or subject, the main driver in choosing a subject is usually the student's personal experience and practice.

7.1 The IIS model of interdisciplinary research

In figure 9 we present our model for interdisciplinary research. It describes a generalized research process, in which the following steps are distinguished: identify the problem or topic (i) and formulate the preliminary research question (ii) in the Orientation phase; develop the theoretical framework (iii), finalize the research question (iv) and sub-questions (vi) and research methods and design (vii) in the Preparation phase; collect and analyze the data (viii) in the Data phase; and interpret the results, draw conclusions and write the discussion (ix) in the Finalization phase.
As convenient as this may seem, it is important to note that there is not really a standard research process, not only because research processes differ in practice, but also because what is considered a normal research process differs from discipline to discipline. Therefore, the model that is proposed here should serve as a guideline during your own research, not as a strict protocol.
In chapter 12, you will find an example of a complete interdisciplinary research project as carried out by students who used our model as a guideline. The example focuses on an innovative and sustainable form of greenhouse agriculture called Fogponics. It will help you to get an idea of how our research model can be operationalized.

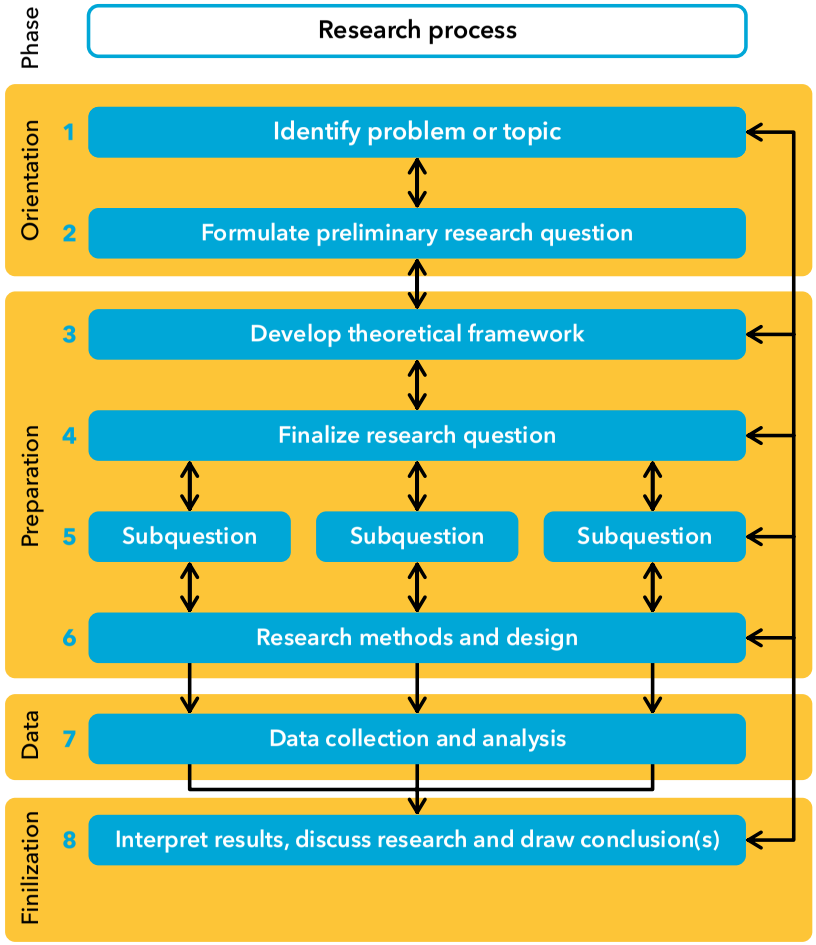

Figure 9 The IIS model for interdisciplinary research

In this model for the interdisciplinary research process, we use different steps (blue boxes in the middle of the figure) reflecting the tasks you must complete in a specific phase of your research (indicated in the left margin). Although you may sometimes need to return to a previous step, the order of steps is more or less fixed and you should not skip a single one. As an obvious example, you cannot analyze data that you have not yet collected. However, it is important to realize that you need to think one step ahead (i.e. you need to know how you are going to analyze your data before you start collecting them). For this reason, we have grouped together several steps in the following phases of the interdisciplinary research process: Orientation, Preparation, Data collection and analysis, and Finalization.

Phase 1 Orientation

You might start your research process by choosing a topic that fits your interests, or a problem that you would like to solve. In all cases, you need to explore the topic, find out which disciplines have something relevant to say about it, and then decide whether an interdisciplinary approach is justified at all. In short, you have to go through an orientation phase. A challenge for interdisciplinary research is ensuring each relevant discipline is reflected in the choice and wording of the research topic and that at this early point of the project no single discipline is dominant. Furthermore, you have to formulate a preliminary research question to define the focus of your research (see chapter 8). This forms the basis to create a theoretical framework (see chapter 9), which you will develop in the next phase.

Phase 2 Preparation

Preparing a scientific research requires the development of a theoretical framework, usually drawn from a literature search: scientists build upon the work of predecessors and colleagues, as was mentioned in chapter 2. The theoretical framework that must be developed is the result of a thorough literature research, gives an overview of the 'state of the art' (the most relevant theories and data on the research topic), and provides a systemized analysis of the most important findings. In the case of interdisciplinary research, this overview will consist of publications from different disciplines.

While analyzing the different disciplinary parts of the theoretical framework, you need to be constantly aware of the different disciplinary points of view (see figures 1 and 2 in chapter 1) with regard to the topic. This awareness of the differences between disciplinary perspectives will enable you to seek or create common ground (as will be explained in detail in chapter 10) at a later stage. As we have seen in part 1, finding common ground forms the basis for the integration of (some of) the different disciplinary insights into the problem. The integration of such insights will enable you to ask an insightful integrated interdisciplinary research question (step 4, explained in chapter 9).

After you have identified the common ground between the disciplines involved, it is time to think of the best way to answer your research question. What are the sub-questions arising from your main research question and which disciplines can address these questions? Please note that sub-questions can be both interdisciplinary and monodisciplinary.

In addition, you should also consider which methods and techniques are most suitable to answer the subquestions (see chapter 10). As mentioned in part 1, it is important to note that the chosen method(s) and technique(s) partly determine the kinds of results you will obtain. In certain cases, it will be useful to integrate multiple disciplinary research methods and techniques in order to get to a more complete answer to your questions (see chapter 10).

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- van Wijchen, D., Hibender, J. & Amersfoort, R. (2012). Bachelor thesis: *Hoe Beïnvloedt het Empathisch Vermogen Menselijke Inter-temporele Beslissingen met Betrekking tot Geld?*

Colophon

University of Amsterdam

The University of Amsterdam (UvA), with some 30,000 students, 5,000 staff, and a budget of more than 600 million euros, is one of the largest comprehensive universities in Europe. Teaching and research at the UvA are conducted at seven faculties: the Humanities, Social and Behavioural Sciences, Economics and Business, Law, Science, and Medicine and Dentistry, with programs offered in almost every field.

The Institute for Interdisciplinary Studies

The Institute for Interdisciplinary Studies (IIS) is a knowledge center for interdisciplinary learning and teaching. Each year, the institute provides a diversity of interdisciplinary education to some 3,300 students enrolled in bachelor's or master's programs or open courses. In recent years, dozens of lecturers in different disciplines from within and outside the UvA have contributed to education or other activities in the institute. The Institute is a 'laboratory' for interdisciplinary experiments and projects that might lead to new interdisciplinary courses, teaching methods, or programs. The IIS conducts assignments and projects for clients both within and outside the UvA. It also advises on interdisciplinary education.

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We are increasingly aware that, as a result of technological developments and globalisation, problems are becoming so complex that they can only be solved through cooperation between scientists of different disciplines. Healthcare, climate change, food security, energy, financial markets, and quality of life are just a few examples of issues that require scientists to work in a cross-disciplinary way. Young academics are being called on to step beyond the boundaries of traditional disciplines in order to contribute to addressing fundamental and societal problems. As a result of these developments, an interdisciplinary approach is becoming increasingly necessary and popular in higher education. Students need to learn more about how to integrate and apply knowledge, methods, and skills from different fields. Comparing and contrasting, connecting, adding and adapting concepts, theories and methodologies from different disciplines ultimately result in new insights and better answers to complex problems. *An Introduction to Interdisciplinary Research* serves as an introduction and manual to guide students through this interdisciplinary research process.

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ISBN 978 94 6298 184 3

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