Chapter 1

Nodes of Convergence, Material Complexes, and Entangled Itineraries

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> The artifact, in short, is the crystallization of activity within a relational field.
>
> **Tim Ingold**

> Science is not just knowledge about matter; it is also knowledge that comes through matter.
>
> **Francesca Bray**

Some time ago global historians of science moved away from a model of knowledge-making in which a discretely bounded fixed corpus of knowledge from one part of the globe diffuses outward—transmitted from point to point, arriving whole or in parts, and replacing local knowledge systems. Instead, knowledge is now understood to be constituted in part by movement. In other words, the routes that materials, practices, and knowledge take can be more important than their roots or originary forms. This perspective informs the present volume, in which contributors follow the routes of materials, people, techniques, and practices (both esoteric and exoteric), ways of knowing, and codified knowledge systems across Eurasia, tracing their itineraries as they weave in and out of "nodes of convergence" or "relational fields." Through such movement, these materials and practices—and the knowledge systems that both give them meaning and in turn are formed by them—are transformed and constituted anew.

Nodes of Convergence

Tim Ingold's suggestive description (quoted above) of artefacts as the crystallization of activity within a relational field makes the same point: materials and objects are constructed by the material, social, economic, intellectual,

and emotional contexts in which they find themselves—the "relational field." As these artifacts move, they do not remain stable, although perceived properties or characteristics might sometimes continue to be noted (such as the putrid smell of asafetida as detailed in Leung and Chen's chapter). Materials are not stable across distance and time—their perceived properties can be transformed, as demonstrated by asafetida, sometimes viewed as a remedy, sometimes a poison. Just as the uses to which they are put and their relative value—economic and cultural—can vary, so too can the methods by which they are investigated, and even their status as compelling objects of study and knowledge. Such meanings and significance of materials and objects transmuted—sometimes drastically—as they traveled into and through new relational fields. The chapters in this volume demonstrate how materials and things altered as they moved and were mobilized in new systems of production and in new regimes of attention and knowledge-making and as they were codified in tools, techniques of production, objects, and writing. Materials, techniques, recipes, objects, and books both carried and made knowledge as they moved. These itineraries of materials never constituted placid, smooth streams of cumulative knowledge-making; rather, they were nonlinear, sometimes swelling in one relational field, and shrinking to almost nothing and disappearing into a substratum in another, from which a technique might sometimes emerge and reenter the textual tradition.[1] In this volume, we examine several such "relational fields" into which and through which materials moved. Some of these fields formed in busy, crowded, cosmopolitan cities such as Chang'an and Quanzhou during the Tang period in China (treated by Leung and Chen in chapter 7), or the Central Asian crossroads of Kucha, a hub for the trade of materials that could only to be obtained in the Central Asian heartland along the Tarim basin and the area called Bactria by the Greeks (touched upon by Yoeli-Tlalim in chapter 3), or the nexus for European and South East Asian trade formed by the region of Malacca (chapter 5), or the important cities of Reyy and Baghdad, centers of Arabic scholarship written by Persian literati, the echoes of which resonated in Bursa in the Ottoman Empire (chapter 11), even in southern France (chapter 8), and in Assam during the British period (chapter 6). These hubs, nexuses, centers of exchange and calculation—places, or nodes, of convergence where people, materials, texts, objects, and practices came together—produced new sorts of objects (both material and intellectual), new techniques, knowledges, and epistemologies. Indeed, they produced new species of materials as well. The essays in this vol-

Figure 1.1. Google fusion map showing the hubs and nodes mentioned in this volume. All local place names have been included in the map.

ume follow materials such as hing*/awei/*asafedita (chapter 7); spiritual, medicinal, and iatrochemical practices (chapters 3, 5, 8, 9, 11, 12); objects such as a wooden skeleton (chapter 12) and inkstones (chapter 10); knowledge systems such as alchemy (chapter 11); and peoples, as well, into these relational fields and their nodes of convergence, often but not always constituted by diverse centers of trade, which, by their very nature as human crossroads, constituted complex fields of relations—economic, social, cultural, and material. Materials, practices, objects, and people enter or are drawn into these fields, where they are transformed and thrust thereby into new paths of circulation and movement (figure 1.1).

Human-Material Interactions and the Formation of Material Complexes

Francesca Bray, in the epigraph above, makes a profound point. The declarative and positive knowledge of modern science proclaimed by the new philosophers in sixteenth- and seventeenth-century Europe, which culminated in nineteenth- and twentieth-century notions of scientific modernity, consisted not just in "knowledge" in the guise of abstract theories about matter, but itself emerged *through* matter. In other words, the skilled techniques by which humans manipulated materials brought into being knowledge systems. Materials undertake complex itineraries as they are worked by humans. Humans