

# Chapter Three

## Curriculum articulated

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### Accounting for singularity

‘What is astonishing at al-Azhar is the crowd that throngs its halls’ we are told by the Inspector-General. ‘A thousand students of every age, of every colour... scattered into groups, the diversity of costumes.’ One writer complains of the ‘chaos’ and the absence of nizam (order, discipline), noting that the teachers do nothing but sit at the pillars of the mosque giving lessons, without even bothering to record the presence or absence of students or their progress through different lessons. Another writer describes ‘the brouhaha’ as ‘the students, lacking all direction, move haphazardly from professor to professor, passing from one text to another, understanding nothing of passages on which masters comment in a language about which they have no clue and ending up with everything confounded and confused’ (Mitchell 1988, p. 80-1)

This extract from Timothy Mitchell’s *Colonising Egypt* (1988) records the reaction of British and Egyptian colonial officials when visiting a famous mosque-‘school’ in the 1860s. These officials, including an Inspector General, and other officers working to establish an English style school system in Egypt, describe what is, to their minds, and to those of the modern consciousness, disorder. There is both dismay and distaste in their tone as they write of noise and perpetual movement and the unorganized behaviour of students who variously sleep on their mats, study, eat, engage in argument and purchase food from the vendors who move freely throughout (Mitchell 1988, 81).

The apparent disorder at the al-Azhar Mosque – one of the oldest and most important centres for the Islamic profession of law is, Mitchell argues, an order of a different kind; maintained and mediated through the study of Islamic legal doctrine.

The order of teaching ... even the order of the day was inseparable from the necessary relation between texts and commentaries that constituted legal practice. Practice was not something that unfolded within the indifferent order of the timetable; it unfolded in its own meaningful sequence (Mitchell 1988, p. 83).

The pedagogical style in the Mosque was formed around the individual exchanges between master and student. Accordingly there was no need of walls to divide classrooms, nor desks, ordered ranks, uniforms, timetables or posted curriculum (Mitchell 1988, p. 82). Moreover, this was not a school in the Western sense: it was a

centre for the practice and learning of law that was itself seamlessly integrated into the fabric of religion, custom and community life. The sequence of learning ‘disclosed itself’ in the order of the legal texts that learners first became familiar with in their village mosque and family home, and in the relations between learners in terms of their command of the texts: beginners learned from the more advanced learners, as masters continued to learn from each other. While students deferred to the master as the learned leader, they were expected to actively participate in the disputations around the word of law through which learning took place.

The system of schooling that was to supplant this form of learning was in every way a product of English Enlightenment philosophy and the military style of order and discipline practiced in the Lancaster model of schooling that evolved in England in the first half of the nineteenth century. In 1872, a foremost modern Egyptian educator underlined an emerging local enthusiasm for this ‘Lockean’ order, declaring that:

Man emerges from his mother’s stomach knowing nothing and capable of nothing except by education<sup>1</sup> ... he needs to be equipped by endless drilling and practice and exercise over a length of time (Rifa ‘a al-Tahtawi, cited in Mitchell 1988, p. 89)

The Egyptian project led to the establishment of schools in Cairo and Alexandria – and also in Paris – organised and run by the French Ministry of War, as a means to train future modern Egyptian rulers. While these early experiments came to an end with a change of government, the codes of order, discipline and instruction continued to be the basis of successive waves of national policy making and school building initiatives. In 1868 a comprehensive plan for a national schooling system was enacted, under which elementary schools were established in every village, hamlet and town according to size, feeding into high schools in the larger centres. Every school was constructed according to a unified plan, to house a nationally regulated system of instruction based on exacting rules over dress, behaviour and movement. It is testimony to the mobility and durability of the curriculum, and its seamless integration within the modern project, that by the nineteenth century other modes for organising learning had become untenable in such modernising states.

## **Multiplicity, modality and singularity**

The modern curriculum is a very particular mode of ordering and one that is peculiar in its insistence on regulation of learners’ time and movement, and the division of learning into separate chunks of content allocated to periods of time. However, its

peculiarity is, and has been for several generations of modern citizens, practically unrecognised because of its utter familiarity. Here are two descriptions of the business and routine of modern schooling:

The board drew up suggested timetables for boys and girls schools. Following 'Preparation for Business – Inspection as to Personal Cleanliness' (9–9.15 a.m.), children worked at such subjects as reading and explanation; tables, definitions or rules of arithmetic; writing; pointing out parts of speech; geography; mensuration or geometry; spelling and writing from dictation; grammar; geography; singing; and, for girls, sewing, knitting, making, mending, cutting out, plain and fancy needlework. The children were grouped in four classes. Most periods were of thirty minutes duration (Blake 1973, p. 61).

In the first few grades we had 'reading' notebooks, laboriously handwritten and painstakingly illustrated with coloured crayons. Our desks and benches were fixed to each other by cast-iron brackets and set in long rows of two, leading (the symbol of power did not escape us) up to the teacher's desk, high on a wooden platform, behind which loomed the blackboard. Each desk was pierced to hold a white porcelain inkpot into which we plunged the metal nibs of our pens; we were not allowed to use fountain-pens until grade three (Manguel 1996, p. 68).

The first extract is from the centenary history of public education in Victoria, Australia. It describes the program of a 'board school' in the period just prior to the passing of the 1872 Education Act under which elementary schooling became 'free, compulsory and secular'. The second extract is Alberto Manguel's description of his own school days in Buenos Aires in the mid 1960s. There are several historical markers in the first extract: 'Inspection as to Personal Cleanliness' gradually ceased to be an acceptable school practice as domestic plumbing and working-class household incomes improved; mensuration was subsumed into geometry; spelling and writing from dictation gave way to contextual reading and project writing; and sewing, knitting, making, mending, cutting out, plain and fancy needlework have become Textiles, which is now an accepted subject for both boys and girls.

But for the mention of fountain-pens, Alberto Manguel's classroom could be set any time in the past 100 years. Encapsulated in those few lines is the enactment of the modern curriculum: the spatial politics of the classroom (not lost on Manguel and his classmates) and the spatial politics of the school in miniature, the rules about penmanship, the discipline of the fixed rows of desks and the careful sequenced process of learning. Without Manguel needing to say so, I 'know' that the class, in the presence of the teacher (high on the platform), would have been dipping their nibs in

the porcelain ink-wells in silence, broken by whispers, just as in my own primary school about ten years earlier in a provincial city in Australia.

Reminiscences about school are commonplace – they are the stuff of autobiography, popular journalism and reunions. Key ‘memories of schooldays’ into an Internet search engine and stories pour forth, from all corners of the globe. There is a startling level of consistency in such accounts: the architecture and social relations of the classroom; the subjects of study; the discipline meted out; school assemblies; badges, emblems and symbols; the imperative orders to behave as a group; ‘Class! Face the front’; ‘Stand to attention’; ‘Repeat after me’ ... all part of what Catherine Burke refers to as ‘a universal narrative, a romance – *The story of schooling*’ (Burke 2001 p. 196). The features of modern schooling identified by Mitchell in the Egyptian project – specialised spaces, teachers, classrooms, desks, ordered ranks, uniforms, timetables and a posted curriculum/syllabus – are those of the global story.

When we talk of the ‘curriculum’ we are evoking a social technology of some 400 years ‘of age’. Just 400 years, not millennia; nor a universally applied or even common technology, just an artifact of Western modernity and its colonising ways. As we shall see in the following section of this chapter, the curriculum was articulated within European Renaissance universities and schools as an assemblage of discursive practices that addressed practical problems associated with the transmission of knowledge. In the ensuing centuries this essentially classroom-based technology has been augmented and extended through the application of spatial technologies in the form of increasingly elaborated buildings and differentiated internal spaces – teachers’ rooms, classrooms, the Headmaster’s Office, forbidden corridors and the assembly hall – to become first a primary source of institutional authority, and later an agent of the state. As schooling became a major site for experimentation in social engineering, and for the application of emergent pedagogical, psychological and cognitive theories, the realisation of political ambitions and the adolescent rite of passage into adult roles, the kernel of the original assemblage has consolidated and become invisible inside the accretions of modernity.

There is however no need for a grand narrative to account for this singularity. A more modest and at the same time more robust explanation can be found in the routine practices and unexceptional sites and experiences of schooling and in the exceptional capacity of the curriculum to take on different modalities.

The sum of the cultural and technical procedures that have become the curriculum is a powerful set of associations routinely practised in the schooling projects of imperial modernity. The curriculum, as an enactment of the social relations of schooling, is pervasive in the life of the modern child – and goes on to become pervasive in the lives of many young adults. Populations of children and adolescents routinely participate in this social organisation of learning and it may be argued that the teacher is the one professional role model whose practices are part of the daily routine of all children. The classroom, the everyday working personas of the teacher and ‘the class’, the familiarity of the blackboard/whiteboard, dusters, papers, texts, schoolbags, (lost) pens and more recently notebook computers, subjects, courses, timetables and exams are enacted as a collective of timeless durability. Students regularly lament their lot – ‘why do I have to go to school/do Maths/ P.E./yard duty ...’ and bemoan the teacher(s) who are ‘not fair/kept me in again/lost my homework/hate me’, but the *fact* of school is seldom challenged. School has been enacted in the collective imagination of children since they were first told ‘Next year/when you are five/when you grow up a bit more, you will go to school’; and as they witnessed older siblings and neighbours going ‘to school’, hearing them answering questions like ‘How was school?’ (‘OK ... Mrs. (Teacher) made us all do a talk on the holidays. I got a ‘B’). As four-year-olds at kindergarten (already in an imagined school) ask each other ‘What school are you going to?’ there is the prefigured ‘school’ of the imagination, that is, to use Michael Carter’s words, ‘the manner of being in which the institution is given to us’ (Carter 1998, p. 29).

The modern curriculum is enacted as multiplicities and in different modalities: two types of enactment that need distinguishing. As Annemarie Mol (2002) demonstrates, apparently singular things inhabit and are enacted in multiple realities. In Mol’s study, atherosclerosis is enacted differently in and by a patient (for whom atherosclerosis may be pain, discomfort, inconvenience, fear); in the clinic (where it performs as a group of symptoms to be subjected to critical scrutiny); in the pathology laboratory (where, in the refrigerator, it is part of the contents of an amputated leg and under a microscope, a ‘thickened intima’); and in the operating theatre (where it is ‘an artery with atheromatous plaque inside its lumen that shouldn’t be there’ and is to be stripped away) (Mol 2002, p. 90). This is ‘atherosclerosis’ and many ‘atherosclerosises’ – being, at the same time, multiple in their meanings and consequences, and singular as a consequence of its political relations and ontic-epistemic place in medicine.

The realities of the ‘curriculum’ are enacted inside and outside the school as a physical institution. Its practice by teachers (photocopying texts, designing lessons and marking essays); by policy makers (proposing new subjects and funding regimes); by pupils in the schoolyard (at play between the bell that released them and the bell that will call them back to class); and by researchers (isolating features, grouping practices, identifying continuities and interruptions), are multiple enactments with different meanings and consequences. The ‘curriculum’ here inhabits multiple realities and is being a different thing – order and discipline, work, power, object of study.

Modalities qualify or modify an entity – by adding to it or subtracting from it. In the case of ‘curriculum’, modalities are visible in different forms of discipline, varied spatial arrangements and politics (informally grouped tables may replace desks; some pupils may be allowed access to otherwise forbidden spaces); differently arranged and named subjects, different streams of learning (‘academic’, comprehensive’, ‘vocational’) and so on. Different modalities intersect with multiple enactments and together demonstrate the plasticity of forms of which the assemblage of routine practices known as the curriculum is capable. In all of its multiple performances and different modalities is nevertheless a durable singularity that:

manifests a world in its depictions that is ontologically single, and therefore inhabited by a finally limited number of objects, forces and processes that may be more or less well known (Law 2004, p. 137).

## An emergent order

Historians of ideas have shown little interest in the curriculum notion. Worse still, English-speaking educationalists have also taken it for granted, rarely exploring the boundaries marked out by the use of the term ‘curriculum’. Both groups then are prone to use ‘curriculum’ in an anachronistic and insensitive manner (Hamilton 1990, p. 3).

In this chapter I set out to craft a story of curriculum that can account for its durability over several hundred years, its working capabilities and present singularity. This is neither a narrative of progress nor a history of the curriculum. It is an exploration of the historicity of the object called ‘curriculum’ in which I seek to avoid either any implication that curriculum was there all along as *the* (universal) mode of ordering of learning; or that the curriculum represents a more effective efficient mode than was previously in place. The story identifies a number of ‘interruptions’ to one mode of ordering in schooling, that can retrospectively be identified as contributing to the

conditions for another mode. These interruptions are not of themselves ‘the curriculum’ but rather the warp on which it has been woven.

I regard the emergence of the curriculum as being embedded in a larger narrative in which terms and conditions of modernity coalesced around ‘particular accounts of knowing and acting’ (Verran 1998, p. 239). The ‘accounts of knowing and acting’ associated with new forms of schooling were manifested as the dynamics of classroom practice; debates about knowledge and knowledge making; and new patterns of economic activity and associated cultural movements. The place of curriculum in the narrative of modernity gives the story in this chapter two roles in the larger text of the thesis: first it displays the curriculum as an exemplar of the modern settlement around representation; secondly, the ‘curriculum’, displayed here as a generalisation, foreshadows the particular form of the modern curriculum that dominated at the time that the Training Package emerged into life.

## Articulation and historicity

In *Pandora’s Hope* (1999), Latour tells an articulation story about Pasteur and the *lactic acid fermentation yeast* that I use here to help locate the historicity of the curriculum. Noting that this fermentation yeast is now available worldwide by mail order and routinely used in cheese production, Latour takes us back to the time when fermentation was explained as a purely chemical reaction and Pasteur, having located an entity under a microscope, conducted a series of experiments that showed it to be a living organism implicated in fermentation. Latour uses Pasteur’s notes to carry the story of how this entity, that is later named *lactic acid fermentation yeast*, comes to have the identity we now recognise. First Pasteur describes how the yeast became visible (to someone who knows what to look for); then how it comes together (with a microscope to be seen; with sugar to do the work of fermentation); how the yeast can be mobilised without losing its potency; how it is ontologically stabilised and its working capabilities explained (by analogy to and comparison with a known entity – brewers yeast); and how this singular entity (*lactic acid fermentation yeast*) helps to define the conditions under which a whole class of phenomena (fermentations) are best enacted (Latour 1999, pp. 13-122).

Latour’s argument here is that we should not regard this as a case of Pasteur ‘discovering’ a yeast of timeless and unambiguous existence: nor imagine that Pasteur fabricated something that was not there to start with. What took place in Pasteur’s laboratory was a series of transformations through which the ferment that ‘began as

attributes', ended up being a substance (Latour 1999, p. 151). The point in the parable of the yeast is that it became an articulate proposition in the social relations and political economy of science and technology – something that clotted into independence as an entity, because work was done to it and by it, together with other entities:

The more work Pasteur does, the more independent the lactic acid becomes, since it is now that much more articulate thanks to the artificial setting of the laboratory, a proposition that in no way resembles the ferment. The lactic acid ferment now exists as a discrete entity because it was articulated between so many others in so many active and artificial settings (Latour 1999, p. 144).

It is a measure of the relative poverty of theorising about the historicity of the curriculum (Hamilton 1989, 2003; Grafton & Jardine 1986) that I find myself looking to stories of lactic acid ferments for metaphors with which to address my questions. As briefly discussed in Chapter Two, I found both educational theory and sociology to be somewhat unhelpful orientations for dealing with matters of curriculum practice that persisted in spilling out of the 'hardened categories' (Verran 1998) of modern scholarship. On the other hand, resort to lactic acid ferments is a tricky business: curriculum is a different matter of fact than yeast, and the metaphor needs to be handled delicately so that the two do not end up in an unfortunate conflation. Accordingly, I employ the metaphor selectively, using the story of the lactic acid ferment to illustrate two points of historicity: 'how a new entity can emerge out of an old one' and how propositions move, through practice, 'from one ontological status to the next' (Latour 1999, p. 122).

Once its historicity is acknowledged, it is problematic to refer to the 'curriculum' as a sequenced program of subjects studied in a given mode and order before the late 1500s, when Ramus published his *Professio Regio* (1576), and universities started to refer to their curriculum as a mode of ordering – for example at the University of Leiden whose records show that the term used in this way in 1582 (Hamilton 1989, 43-4). The Oxford English Dictionary dates the earliest use in the English speaking world of the term 'curriculum' to mean 'a regular course of study or training, as at a school or university' to the University of Glasgow in 1633 (OED Online, accessed 2004). 'Curriculum' is nevertheless, as Hamilton argues, used anachronistically, to describe the programs of learning in Medieval and Renaissance schooling, at which times 'curriculum' in Latin referred to a life journey or career trajectory, with no etymological ties to structured learning (OED Online, accessed 2004). Jardine (1974) and Grafton & Jardine (1986) refer to the 'renaissance curriculum' in describing

university teaching programs in the fifteenth and early sixteenth centuries; Watson (1968) refers to the ‘curriculum’ of fifteenth-century grammar schools. And in his seminal study of the philosophical and pedagogical practices through which new teaching methods and knowledge structures emerged, Walter Ong (1983) translates *doctrina* as ‘a curriculum subject’ and *doctrinae* as ‘curriculum’.<sup>2</sup> Ong’s translation may be helpful insofar as it indicates that *doctrinae* were devices for managing learning and the content of a learning program. However, it is unhelpful if this leads to *doctrinae* and curriculum being used interchangeably, thus denying each their history and role in the organisation of learning.<sup>3</sup>

## Modes of ordering in renaissance schooling

My exploration of the articulation of curriculum opens with an excursion into Renaissance Europe when population growth, economic change and the circulation of humanist ideas engaged with the Medieval Scholastic tradition to enact new ontologies of teaching and learning. This is a time in which, according to Walter Ong, philosophy and pedagogical procedure not only influenced and interacted with each other, but were ‘practically fused’ (Ong 1983, p. 149). Changes in schooling practice and theory were in part propelled by the corporate weight given to this ‘philosophy-pedagogy fusion’ by the establishment of Medieval European universities. In this incorporation move knowledge that was traditionally communicated through personal teacher/pupil relationships became an institutional commodity: codified and thus open to scrutiny; able to be compared over time, measured and reported on. As these changes took place, the Arts Scholastic took its place as the recognised undergraduate university program, and Socratic traditions of teaching were submerged by institutional routines. Scholarly enactments that had unfolded in accordance with the preferences of particular teacher/pupil groups, were, in the new corporate environment subjected to rules and conventions about time and space, and to the hitherto unknown practice of examination: ‘a sampling of knowledge through which, by a kind of extrapolation, the whole “content” of a person’s mind can be calculated’ (Ong 1983, p. 152).

Through such enactments teachers took on new corporate personas, and the particular social relations of scholarly leaders with their selected pupils (disciples) were interrupted by the teachers’ new responsibilities for managing larger groupings of pupils and for preparing standard sequences for the transmission of knowledge.

## The Arts Scholastic and civil society

The teaching program in Renaissance universities, and in a growing number of grammar schools that had been established in the fourteenth and fifteenth centuries, reflected both the traditions of Medieval Scholasticism and the emerging humanist intellectual movement. The epistemological foundation of Scholasticism was an accommodation that reconciled Aristotelian logic and Christian faith, such that Aristotelian logic was used to establish Christian truths (Hamilton 2001, p. 4). The Medieval Scholastic was not displaced by humanist ideas: rather it was overlaid with a rigorous program of grammar, rhetoric and logic that brought a new classicist style into the university (Grafton & Jardine 1986) and with it a preoccupation with the bearing of education on personal conduct, exemplified in the correct method of classical exegesis, argumentation and speech (Kristeller 1955; 1974). The Medieval Scholastic and the humanist movement both expressed the role of knowledge in cultural production and reproduction. Humanism also expressed the role of the individual in these processes as the embodiment of exemplary intellectual demeanor, in particular in public life and economic pursuits, and with the aid of printing, extended the reach of scholarly literature, and ‘disciplined’ lesson-like literary practices (for example a recitation followed by a discussion, in a private group) into the world outside the academy (Kristeller 1974, pp. 17-19).

The humanist Arts Scholastic offered a program of Latin Grammar, Rhetoric and Philosophy to all pupils as a preparation for a Master of Arts, Theology, Medicine or Law (Ong 1983, p. 139), and can be read as *the* mode for the organisation of university learning between the fourteenth and sixteenth centuries (Ong 1983, pp. 131–4). Through its domination of the organisation and operations of the university program, the Scholastic played a prominent role as the rite of passage and preparation for the four professions of the knowledge economy through which status was distributed and the faith/reason settlement maintained: teachers who delivered lessons that transmitted and reproduced the cultural capital in successive generations; physicians who enacted explanations of health and instructions for healing<sup>4</sup>; lawyers who enacted the defence of rational arrangement of codes of civil procedure, jurisdiction and restitution; and clerics who managed the balance between material and spiritual knowledge and delivered sermons in which the good life was articulated (Ong 1983; Triche 2002; Hamilton 2001). The objective of the Arts Scholastic was largely to reproduce the Arts Scholastic as a body of knowledge and a mode of ordering. As David Hamilton puts it:

The Liberal Arts were self referential. They were both structured bodies of knowledge and structured instruments for the communication of knowledge. To learn from previous knowledge was also to learn through previous knowledge (Hamilton 2003, p. 8).

### ***Order in the school community***

Descriptions of the Renaissance universities and grammar school communities show that they differ considerably from the idealised school of popular imagination in which children and young people are seated in serried rows in orderly classrooms, variously overseen by teachers, pupil teachers and monitors. Ong (in a tone of Jesuitical disapproval akin to that of the visitors to the al-Azhar Mosque) refers to the Renaissance university as:

a whole teenage and younger community of undergraduates, a community which habitually lived in a state of unruliness which the modern imagination can scarcely steel itself to reconstruct (Ong 1983, p. 23).<sup>5</sup>

Philip Aries (1960) and Alberto Manguel (1996) describe fifteenth-century teachers and ‘disciple’ students leading nomadic lives, and groups of unsupervised students traveling from town to town in search of a school place. Such student corporations were formed around arrangements in which the ‘old hands’ (*bacchant*) led (and exploited) the younger ‘greenhorns’ (*bejeune*) (Aries 1960, pp. 235–8) and the absence of the teacher as a disciplinarian is testimony to a student lifestyle relatively unrestrained by rules: although universities necessarily confined teaching to particular spaces and to times at which teachers would be in attendance, this did not compel *pupil* attendance:

First, there was no presumption that every student was ‘learning’ the same passage. Secondly there was no pedagogical necessity that all students should remain in the teacher’s presence throughout the hours of teaching – they could just as easily study (cf. memorize) their lessons elsewhere. And thirdly there was no expectation that students would stay at school after their specific educational goals had been reached (Hamilton 1898, p. 38).

The corporate framework of the university was a set of cultural and epistemological parameters within which teachers and classes of pupils convened in a negotiated fashion. The classes did not imply a uniform organisation of the community into pedagogic units overseen by a teacher, and apart from group recitation of texts and mnemonics, instruction was predominantly individualised. Classes were originally groupings based on the student corporations of mixed age and experience (Manguel

1986; Aries 1960) which, as schools and universities increased in size, emerged as administrative divisions.

It is important to understand such practices as a mode of ordering rather than as a symptom of disorder as Ong's comments suggest. Order was manifested in the rules and conventions of language, not in the behaviour of pupils and standard modes of organisation of teaching times and spaces. In other words, the subject of order was the body of knowledge, not the human body, whose disciplined behaviour was a consequence of learning rather than a precondition for its enactment.

## Philosophical method and the teaching program

The humanist Arts Scholastic was dominated and controlled by the 'universally applied organising procedures' of the dialectic that was seen as a strategy for: 'analysing natural relations as embodied in discourse, and manipulating language to gain insight into the natural world' (Jardine 1974, p. 4). The dialectic was the procedure through which instructional information was selected, arranged and communicated (Jardine 1974, p. 2). The role of the teacher was to lay the texts before the pupils and, exemplifying the contents through their own oratory and mastery of the dialectic, instruct their pupils in how to construct appropriate discourse and definitive persuasive argument. Under the influence of humanism, formal and artificial (staged) scholastic disputations were being replaced by training in oration and the mastery of language 'as a desirable accompaniment for the urbane members of a civilised community' (Grafton & Jardine 1986, p. 123).

During the sixteenth century, method – the study of the procedures for achieving effective mastery of language – became a central topic in discourse and a major preoccupation for teachers. However, as Ong points out, the notion of 'method' had no independent existence as a *generalised practical routine of efficiency*: in the work of Peter of Spain and in Boethius' translations of Aristotle's *Topics*, the term *methodus* was taken to refer to a subject or course of study<sup>6</sup>, signifying an internal mode of ordering of the subject matter related to the practical arts of its implementation as discourse and argument. Method was not regarded as a strategy for reaching a planned practical outcome through a routine of efficiency.<sup>7</sup> It was theorised in relation to procedures within the mind that could call up, in an orderly manner, the rules and conventions 'embodied' in discourse and their application in literary composition.

The structure of the teaching program owed itself significantly to the structure of Aristotelian topics and the notion of ‘places’ as heuristic devices used in preparing an argument. By the sixteenth century this structure was reinforced through the printing of manuals containing prescriptions and exemplars demonstrating the use of places in the construction of argument, and through the student practice of transcribing the exemplars into what became known as ‘commonplace books’ (Hamilton 2001, pp. 3 & 6). The ‘places’ of argumentation were, through printing and transcribing, translated for convenience into ‘common headings’, and as Ann Moss argues, the analogy was made between ‘dialectical commonplaces by which propositions may be found and the commonplace heads by means of which material is ordered and retrieved in the notebook’ (Moss 1996, p. 78). In the use of commonplace books there is the notion of a syllabus – a set of headings, places and topics to steer teaching and learning. However, there no sense in the use of commonplace books – or in the notion of *places* themselves – of a designed pedagogic order as distinct from the order implied in an argument or topic. And in Ong’s pejorative terms, the syllabus was a result of the ‘intellectual heritage ... constantly being beaten down into simplified form by systematic presentation and re-presentation to the youthful mind, generation after generation’ (Ong 1983, p. 136); a comment that presages Ong’s dismissal of the Ramist contributions to philosophy as merely organisational strategies of instruction that emerged through practice as a solution to pragmatic problems of order.

The texture of teaching and learning according to the Renaissance syllabus can be illustrated in the practice of reading that consisted of a four-stage prescribed exercise in textual analysis:

Analysing the grammatical structure (*Lectio*)

Working out the literal sense of the text (*Littera*)

Analysing meaning according to established interpretations (*Sensus*)

Discussing approved commentators (*Sententia*)

This four-stage exercise reflected the rules of discourse that would have been followed in a formal debate between the author of the text in question and the interlocutor, according to the Greek oral tradition. The use of written commentaries was a substitute for the presence of an interlocutor (Ong 1983, p. 155): an expedient measure – simpler and less costly to organise than ‘the real thing’. Texts acted as an aides memoire (Aries 1960, p. 134), and as authoritative sources, not points of departure for the pupil’s exploration of ideas about or descriptions of the phenomenal world. The aim of reading was primarily to develop skills in recitation and in formal discourse about acknowledged authorities (Manguel 1996, p. 77). As Eisenstein points

out, this was *learning by reading* rather than *learning to read* (Eisenstein 1991, p. 66).

To emphasise the seamlessness between order and method in teaching and the order of knowledge is not to suggest teachers did not craft new ways to teach, but to indicate that such classroom practices were not derived from a designated pedagogical method with a separate identity in the body of knowledge. The recognised order of teaching was synonymous with the order of knowledge – inseparable from the relations of texts and commentaries; Medieval and Renaissance teaching was more akin to that in the al-Azhar Mosque: a process that ‘disclosed itself, by the logic of interpretation, in the order of the texts’ (Mitchell 1988, p. 83).

## Curriculum articulates (itself)

It is not easy to reconstruct a story of how and why the Ramist curriculum came to be visualised, named and mobilised. This is both a practical and philosophical problem. At the practical level there is the question of evidence and the necessity to conflate a complex and rich tapestry of changing practices and ideas into an artifice called ‘the Ramist curriculum’. Ramus was just one of a number of teacher–dialecticians who were led to address pedagogical problems embedded in the scholastic tradition, and the story is scattered throughout dense and complex argumentation that is, importantly, an argument about knowledge and its application in learning, *not* the quest for an artifact we now call curriculum. The primary sources are found in the voluminous writings of Ramus and his collaborators as they wrestled with practical problems of teaching and philosophical problems of order, and in the intricately argued responses from Ramus’s detractors that led to further voluminous writings in which questions of teaching practice and philosophical knowledge are intertwined.<sup>8</sup>

At a philosophical level there is the problem of imposing a modern rationale on Renaissance modes of ordering. Even if we accept Ong’s judgement that Ramus’s innovations addressed the pedagogical practicalities of how to organise ‘a prospective class of logic students in their early teens’ (Ong 1983, p. 39), we cannot assume that the problem for Ramus and other teachers was perceived as a problem of *disciplinary* order, as is implied in Ong’s remarks. If we accept that the Arts Scholastic had been extended beyond its original purposes and that the complex, abstract nature of the liberal arts did not necessarily meet new demands; if we figure the effects of a growing population of students in a corporate learning environment designed for small

discursive groupings of scholars, then a crisis of order that galvanised teachers to look beyond conventional practices is plausible. But only from inside a modern sense of order: the development of curricular method cannot be retrofitted as a strategy to address the problem of disciplinary disorder that has been invented by narratives of ‘progress’.

To address these practical and philosophical problems I adopt as a starting point the proposition that what we now know as the modern curriculum – broadly speaking comprised of a substantive structure of knowledge and a syntactic structure or method, clotted from multiple enactments of, and interruptions to, the Arts Scholastic in its role as instructional, locus of scholarly debate, and commodity in the knowledge economy. Given the pre-eminent place of teaching and learning in Medieval and Renaissance societies that Walter Ong suggests ‘practically fused’ philosophy and pedagogy as human activities, discourse and disputes framed by and about the Arts Scholastic would be a constant part of the fabric of daily life for teachers, pupils, and other participants in the knowledge economy. This would be particularly the case for teachers for whom the Arts Scholastic was both the primary tool of trade *and* the product of their labour; both a ubiquitous singularity and an actor in multiple performances that, through problem solving strategies, new ideas, shortcuts and inventions, moved the social relations of teaching and learning in different directions. ‘Ramist’ propositions about how to engineer dialectic to pedagogical ends, and the diagrams produced by Ramus and others mapping scholarly knowledge would have been a part of this fabric, without at any given time necessarily being identified as a new mode of ordering.

To impose a grand narrative of the translation of the Arts Scholastic into the modern curriculum would be anachronistic. On the other hand, the durability of modern schooling, whose origins can be observed in the Medieval Scholastic, Renaissance humanism, reformation politics and the philosophical debates of the sixteenth and seventeenth centuries, suggests that the narrative cannot be left entirely in fragments. To construct a narrative of the Ramist curricular reforms, I adopt as a metaphor the notion of *fractional coherence* (Law 2002) and draw the threads of innovation together as ‘interruptions’ to the Arts Scholastic.

## The first interruption: Ramist dialectic and the notion of utility

The teaching of Peter of Spain's art of dialectic had, over several centuries, the effect of simplifying and formalising dialectical reasoning. Extending this work of simplification, Ramus argued that the rules for forming propositions and 'disposing them in syllogisms or larger units of discourse correspond to the mind's natural operations on its store of material in response to any problem or question' (Jardine 1974, p. 42). While dialectic involved invention from first principle, the primary task of the dialectician according to Ramus was descriptive: to generalise the procedures used by philosophers, mathematicians and poets so that the natural dialectic used by great minds could be made accessible to the average scholar. The effect of these arguments was to transpose dialectical practices into a 'cluster of mental habits possessed by scholastic arts masters' (Triche 2002, p. 78); Ramus's emphasis on visualisation and his presentation of the dialectic as a set of precepts in three parts – *nature*, *art/teaching* and *exercise* (see Table 3.1) – helped to anchor the previously abstract dialectic in everyday consciousness, and extend it from the world of knowledge into the phenomenal world of experience

Table 3.1: The Ramist Dialectic

<b>NATURE</b>	<b>ART</b>	<b>EXERCISE</b>
Reality/object	Representation	Apprehension
Knowledge	Map of knowledge	Purpose
Natural ability	Teaching	Practice/ Learning
Natural operations	Systematisation of natural operations	Application of systematized knowledge

The 'natural' use of dialectical reasoning was associated with the way a child learns about the everyday world: acquiring knowledge through the discovery of particulars and the application of discovery to new experiences. The art of dialectic is found in its application in teaching, representing a systematisation of 'natural operations'. Ramus illustrated the relationship between natural dialectic and the art of dialectic in the series of analogies in which categories of knowledge were aligned to the arts of their representation: for example, natural physics to the diagrams of physicists; mathematics to mathematical abstractions; and 'natural moral philosophy to the art of virtue' (Ong 1983, p.181).

It is in the third component of the dialectic, *exercise*, that the Ramist dialectic particularly departs from that of its predecessors. The Arts Scholastic was self-referential: a primary objective of its transmission was the inculcation future teachers

of the Arts Scholastic, and its teachings did not refer its students towards the practicalities of daily life. However, the Ramist dialectic suggested a role for the dialectic in daily life that Ong argues extended the ‘purview of pedagogy itself’:

... so that the world outside the classroom purportedly governed by dialectic was by that fact being assimilated to the classroom itself. Thus not only did the curriculum expand in the wake of humanism to include such new subjects as geography, history, and many others, all given ‘methodological’ or classroom organisation, but also the whole of ‘life’ which was set against classroom activity tended to be interpreted in undisguisedly pedagogical terms (Ong 1983, p. 167).

Ramus’ philosophy captured and codified humanist notions about the practical applications of school knowledge. The Ramist dialectic interrupted the traditional relations of the knowledge economy and the reproduction of the self-referential Arts Scholastic by locating the mental operations of the ‘natural’ person as an actor in scholastic reasoning, and by making the dialectic an accessible tool for life beyond the walls of the academy, in Ramus’s words:

Since the whole of life of man should be nothing other than the use for reason, that is, nothing other than the exercise of the natural dialectic, let us apply the resources of our whole life to studying and practicing the art of reason and of natural dialectic, however simple and few the precepts by which this is known (Ramus, ‘Training in Dialectic’ 1546, cited in Ong 1983, p. 193).

By insisting that dialectic should not merely govern what goes on in the classroom, but ‘should govern all life’, Ramus’s refinement of the art of dialectic extended the role of Renaissance teaching and, in time, contributed to changes in the role of the university:

From the Renaissance onward, as the university begins to study as well as teach almost every aspect of human existence, everyday life slowly begins to be increasingly reframed within pedagogical terms, thereby giving everyday life a ‘methodological’ organization (Triche 2002, p. 79).

## **The second interruption: modernising orders within the Arts Scholastic**

In the sixteenth century the definition of knowledge was in a process of flux. The classification of knowledge had been a major scholastic project that served to demonstrate the underlying unity of all areas of physical knowledge; of physical with metaphysical knowledge (geometry/geomancy; number/numerology; astronomy/astrology); and the unity of knowledge with the cosmos. The influence of

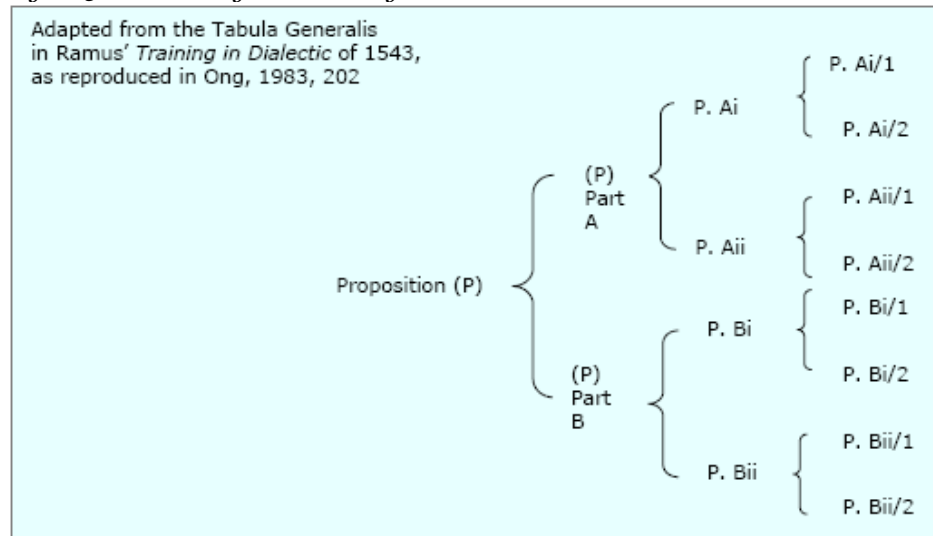
humanism was to associate knowledge with specified practices that exhibited the exemplary nature of the individual (rather than the moral improvement of the whole person in the abstract), and, with the aid of printing technologies, was to instigate the writing of textbooks on selected subject matter, which gradually replaced the unified encyclopedias of the Arts Scholastic. The impact of such moves was to intensify what Ong refers to as ‘a faith in the segmentation of knowledge’ (Ong 1983, p. 165); a ‘faith’ certainly held by Ramus, and one that he expanded to incorporate the arrangement of knowledge specifically for teaching purposes: Ong cites Ramus as arguing that the ‘chief business of all classification is the classification of the arts and sciences themselves’ and that ‘the primary units which the mind “contains” are the subjects in the curriculum’ (Ong 1983, p. 197).

This is a view of knowledge *as a set of discrete objects* that align directly and ‘naturally’ with the organisation of subject matter for teaching:

The cumulative effect of the preoccupation with the classification of the arts is so great here that it leads Ramus to suppose that all ‘things’ are subsumed under the arts ... In other words Ramus finds himself substituting a list of subjects in the curriculum (which is what the ‘arts’ in reality were) as the supreme genera of ‘things’ for the Aristotelian categories as supreme genera of predicates (Ong 1983, p. 198).

Ramus took the concept of the *technologia* – the systematic treatment of grammar in Cicero – and extended it to other subjects, defining *technologia* as the art of properly arranging the contents of the arts. This ‘proper arrangement’ involved the subdivision of each of the units of knowledge into smaller constituent parts: arranging each part – or particle – so that its relationship to other particles was clearly visible. Ramus achieved this through a form of class logic in which any individual classified ‘thing’ is contained in, or is the container for, another larger or smaller particle (see Figure 3.1 which illustrates Ramus’ use of an existing technology – the dichotomised table – to propose relationships between patterns of thought and the proper relationships between subject matter (Ong 1983, p. 199).

Figure 3.1: Ramist logical taxonomy



The form of this taxonomy was hotly disputed on the grounds of its ‘accuracy’ as a description of the structure of knowledge, and attacked as an unwarranted transposition of the Aristotelian Categories ‘into a curriculum classification’ (Ong 1983, p. 198). However, as Ong further points out, Ramus was not concerned with theorising the structure of knowledge, but with facilitating the practice of reasoning through which thoughts were ‘naturally’ grouped into bracketed pairs of alternatives. The visible division of subjects into successive dichotomies made it clear just what each subject comprised; it became an ‘accurate’ representation of the ‘true’ structure of knowledge through the conflation of the arts – the learning program itself – with knowledge per se.

This is the second interruption to the Arts Scholastic: both a new mode of ordering of knowledge as objects capable of arrangement as small graded particles, and a new means of representing that mode of ordering in spatial terms. In other words, the curriculum was a map of knowledge, ‘disposed – or laid out – so that it comprised a method – or way – of teaching’ (Hamilton 2003, p. 13). The dichotomies – instances of a simplified inscription (Latour 1990) that enable scale to be modified at will, gave teachers, wrestling with an abstract body of knowledge that had ‘grown like topsy’ over successive centuries, the capacity to ‘see’ the entire scholastic construction represented on a single sheet of paper.

## The third interruption: method as the centering of instruction

The simplification of dialectic as a pedagogic practice was a routine of explanation, based on the ordering of items of knowledge. This is the art of dialectic as teaching, as Ramus argued:

The method of teaching ... is the arrangement of various things brought down from the universal and general principles to the underlying singular parts, by which arrangement the whole matter can be more easily taught and apprehended. In such method, this alone has to be prescribed: that in teaching the general and universal explanations precede, such as the definition and a kind of general summary; after which follows the special explanation by distribution of the parts; last of all comes the definition of the singular parts and clarification by means of suitable examples (Ramus 1546, cited in Ong 1983, p. 245).

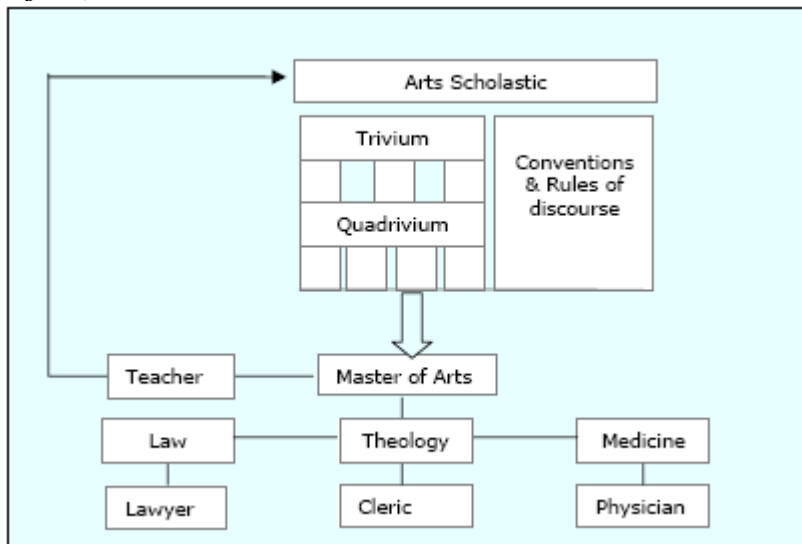
In this argument the dialectic is unambiguously cast as a tool for teachers to arrange knowledge for the purposes of learning, thus extending it from a mode of ordering embedded in its own subject matter (a form of recursive pedagogy) to a mode of ordering in general. In separating the dialectic out as a method, the notion of self instruction built into earlier versions of the dialectic was muted and it became associated with teacher led instruction. At the same time *method* previously an embedded component the dialectic takes on a pedagogical role, independent of and able to influence other philosophical subject matter

This then is the third interruption to the Arts Scholastic: the foregrounding of the role of the teacher and the standardisation of teaching practice. The teacher, as the purveyor of method and bearer of the map of school knowledge, occupies a gate-keeping place between knowledge and the learner. These new relations of teaching and learning demonstrate a move to a more prosaic status for teachers: that reduced the significance of the charismatic lecturer and rhetorician and elevated the corporate pedagogue whose work routine (and career) came to require capabilities in planning, organising a timetable of activities, drafting teaching notes and recording the progress made by groups of pupils. Having been the embodiment of knowledge-as-learning, teachers became overseers of transfers of knowledge in the form of prescribed subject matter, lessons and textbooks.

## Representations of modern knowledge

As the means through which a social and intellectual order was maintained, the Scholastic was entirely self-referential. It was the expression of the unitary epistemology, and of the knowledge economy through which it was reproduced (illustrated in Figure 3.2). The subject matter of the Arts Scholastic – grammar, rhetoric and the dialectic – the method of teaching and the practices of physicians, lawyers and theologians were of the same order. The Scholastic, through which this mode of ordering was reproduced, and the mode of ordering itself, while subject to debate, refinement and reform, did not rely on notions of progress to maintain currency. The important thing was the maintenance of the overall integration of the body of knowledge, and the unitary relations of this knowledge to the physical world. It is this body of knowledge that both gave rise to new modes of learning and was irrevocably altered by them.

Figure 3.2: *The Renaissance scholastic*



In their study of transition and change in humanism, Anthony Grafton and Lisa Jardine identify a crucial moment of transition in the mid 1500s when, as Ramus was promoting a dialectic designed to make scholastic reasoning accessible to pupils, the spread of print technologies was making the ideas of great philosophers, mathematicians and poets widely available (Grafton & Jardine 1986). Oratory and dialectical mastery were giving way to the pedagogical skills of organising textbook learning of modes of argumentation and debate, at the same time as which the self-referentially abstract, formal and purely logical practices of scholasticism were becoming increasingly anachronistic to humanist elites, who envisaged a civic culture that enacted the cultural disciplines of the ancient world in everyday life, not in the cloistered halls of the university:

It was an alternative culture of formidable pretensions, well aware of the threat it posed to the established intellectual disciplines, as it was well aware of being excluded from the citadels in which these disciplines held sway (McConica 1983, cited in Grafton & Jardine, 1986 p. 143).

This was a time in which humanist textual scholarship, religious reform and the 'manifold discontents of a middle class suddenly aware of its power and its needs (McConica 1965, p. 15) converged into a movement that brought the tools of scholarship into the service of 'the ordinary man' in civil society. The dialectical and rhetorical skills of the Arts Scholastic were appropriated and reworked by the new social elites to mark out the boundaries of contestable status. Levels of skill and demonstrable knowledge came to offer a means by which hierarchies could be established and maintained in the emerging professions and government office, and also gave focus to teaching that emphasised forms of speech and argument that would work in public debate (Grafton & Jardine 1986, p. 79).

The Ramist philosophy-pedagogy that offered an all-purpose method for transmitting knowledge; suitable for application to the content of any discipline, and emphasising simplicity and practicality, sat easily with the cultures of new elites pursuing the utility of learning. When Ramus explicitly discarded the difficulty and rigour of high scholastic schooling, his methods 'attracted those who regarded education as a means to a social position rather than as a preparation for a life of scholarship (or of theological debate)' (Grafton & Jardine 1986, p. 168). Publication of Ramus' visual representations of knowledge as maps of particulars arranged in dichotomous classifications made new concepts of structural coherence (*disciplina*) and internal sequencing (*ordo*) in knowledge (Hamilton 1989, p. 45) accessible not only to scholars but also to the new elites. In all, Ramist method was a reworking and distillation of the major tool of the trivium. As Reiss argues:

... except for its taxonomies little was new or even complicated about this Method (the lack of complication was no doubt a major reason for its becoming fashionable) (Reiss 1997, p. 88).

When Ramus proposed that the test of education should be its use value – that it should repay those who undertook it with skills applicable outside the university – his methods won support from the growing mercantile class 'determined to get value for money for their investment in their sons' education' (Hamilton 1989, p. 45). Utility was not however divorced from notions of the good life; rather the faith/reason

settlement was transposed from the spiritual to the material domain and this change underlined the role of discipline in schooling:

It was to be an education in virtue as well as knowledge, and the conduct of the child was to be as much a part of discipline as the languages it would learn (McConica 1983, cited in Grafton & Jardine, 1986 p. 143).

Nowhere was the engagement of the individual persona as a moral agent in learning more pronounced than in Northern Europe, where the 'methodical humanism' of Erasmus and Agricola laid out the proper procedures for disciplined reading that foreshadowed Protestant biblical scholarship and spread the concept that 'successful drilling ... will guarantee a classroom product of moral uprightness and good character' (Grafton & Jardine 1986, p. 149).

Changes in schooling practices and in the conception of school-knowledge were inseparably linked to wider changes in epistemology and social order. There was a movement of graduates from the universities into economic and political institutions and a widespread communication of ideas about the structure of knowledge and its uses, which was conducted both inside and beyond the university. What was emerging was a new body of knowledge; characterised by the explicit identification and theorising of 'observed particulars' linked to social and economic activities and actors that lay outside the theoretical domain of the liberal arts and their reproduction. In other words, material things: economic production and exchange, and child rearing and schooling, started to come under scrutiny and to be treated as objects of knowledge: as both taxonomies of observed particulars and theories about them. These are the material conditions in which what Mary Poovey names as the 'modern fact' finally emerged:

As a theorisable component of knowledge production ... as an effect of two related developments in the history of epistemology: what looked like or could be presented as the complete separation of observed particulars from theories and the elevation of particulars to the status of evidence capable of proving or disproving theories (Poovey 1998, p. 92).

The publication of dissertations on the theory of method, manuals for teaching and the organisation of subject matter and maps of school-knowledge that were the basis for the modern curriculum were also evidence that the curriculum represented both a body of practice in the phenomenal world and the means of theorising that practice in a way that could be reproduced.

## The curriculum mobilised

In declaring the curriculum ‘mobilised’, I do not imply that at any time it became a singular and unambiguously knowable entity. For a start, there was not a moment when the humanist Arts Scholastic ceased to be the mode of ordering and the curriculum ‘took over’. Some technologies of Medieval origin were mobilised in new forms to work alongside and lend weight and authority to the new technologies. What is now known as a Ramist pedagogy emerged within a broad philosophical-pedagogical movement, and the terms *Ramism* and *Ramist* name a collectivity of notions that formed as teaching practice, polemics and theories across several generations of teachers, pupils and publications.

What first distinguished curriculum as a mode of ordering was its organisation of scholastic knowledge for the *purpose of instruction*, as distinct from its primary purposes – such as preaching, polemical or legal argumentation, and naming and describing symptoms of disease (Hamilton 2001).<sup>9</sup> Its essential innovation was the distillation from ‘the abundant collection of propositions’ that comprised the *art of dialectic*, of an efficient general method for instruction that could be readily recorded – as textbooks (documented *teachings* represented as subjects), and depersonalised accounts of methodical classroom performance (Ong 1983; Hamilton 2003). The art of teaching could itself be taught as a standardised procedure, and performed in any classroom. Curriculum was not bounded by the culture of particular universities, but by the generalised relations and apparatus of its production and practice – academy; map of knowledge; method, classroom, textbook and timetable.

As the curriculum was enacted as a mode of ordering in different parts of Europe, it took on different modalities that demonstrated its capability to perform in more than one way, to achieve more than a singular outcome. It may be regarded as both a modern fact and a *method assemblage* (Law 2004) for ordering the agents of learning – both subject matter and people – that has formed around three crucial agents: First, the teacher performed as pedagogue, planner and organiser of learning and learners; secondly a repertoire of tools designed by teachers for their own use; and thirdly a form of school knowledge that was regarded as having applications in civil society. In suggesting that curriculum is a method assemblage, I am also steering away from understanding the notions of method and order that emerged in the sixteenth century to be an integrated pedagogical system. Rather, I regard them as a repertoire of ideas and practices that were selectively enacted in new arenas.

Ramism was adopted at Cambridge University in the late sixteenth century (Dickson 1992) and the notion of the 'curriculum' spread across Northern Europe (particularly to Germany) and to Harvard University (Hotson 1994), in part due to the wide dissemination of Ramus's published philosophical works<sup>10</sup> and graded textbooks that 'encouraged a reassessment of inherited procedures' (Eisenstein 1991, p. 102). The popularising of Ramus's dialectic as a pedagogical method is widely attributed to Johann Comenius, who in 1632 published *The Great Didactic*, a textbook for teachers containing detailed specifications for the organisation of curriculum time, subject matter and methodology. Comenius's propositions lent weight to the Ramist concept that the classroom 'furnishes the single doorway to what lies beyond students' every day, familial existence, which they must pass through to properly experience the world' (Triche 2002, p. 94). Importantly *The Great Didactic* helped to routinise the work of teachers by prescribing the content of teaching subjects, the sequence of lesson plans and the methods to be employed, so that teachers did not have to write and publish their own materials. In these routines lies the germ of institutional curriculum that reduced the currency of the average teacher, and created the role of curriculum designer that, in the twentieth century came to operate as agent in the governance of education

A further effect of *The Great Didactic* was to reinforce the absorption of non-school knowledge into the curricular order. The logical step-by-step method of building students' knowledge reaches initially back into their prior knowledge, which is thus organised into the same frame of reference as the content area of the teaching program. As such, the usefulness of prior and non-school knowledge becomes confined to the organizational structure of the subject discipline. In other words, the pedagogical method used to plan and implement a lesson has the effect of organizing students' prior knowledge in a textbook fashion (Triche 2002, p. 173).

The credibility of classroom order as a practical means to transmit new knowledge to large numbers of pupils was aided through the agency of Calvinism which, by the end of the sixteenth century was established as an international religion. Calvinist theology emphasised moral responsibility and the possibility of self-improvement through disciplined learning of Christian theology. Like Renaissance Protestant and Catholic theologians Calvinists applied Aristotle's rational method to the practical art of evangelism and to the presentation of Christianity as a coherent and rational system that could be derived from syllogistic deductions based on known axioms (Armstrong 1993, p. 326). A well ordered school, like a well ordered church was promoted as an essential part of the moral community (Hamilton 1989, p. 47), and the orderliness of

the Ramist method sat well with the principles of Calvinist schooling. Influenced by a visit to Sturm's Strasburg Gymnasium, Calvin incorporated the emerging Ramist ideas into his 1559 ordinance for a school in Geneva, advocating the division of classes into groups of ten, sequential teaching from preparatory to higher levels of study and the introduction of French language classes (Boyd 1966, p. 200). The Calvinist school in Geneva was regarded as a significant success and attracted interest from John Knox, leader of the Scottish Reformation, who adopted and extended its principles in 'First Book of Discipline' – the basis of a national system of Church governance (Boyd 1966, p. 201). An essential part of the governance structure was a system of educational institutions, features of which included the separation of different grades of learning and the advocacy of compulsory schooling – under Church control.

A major factor in the mobilisation of the curriculum was the focus that Ramist reforms brought to the role of the teacher and the diffusion of new teaching practices. The power of 'method' was such that 'Ramist' teachers were widely employed in the belief that they were equipped, through the deployment of the universal method to teach all subjects. Method occupied considerably more space in the discourse of schooling than did the subject matter of the curriculum. Ong, in describing the adoption of Ramist methods at Harvard writes that 'preoccupation with the learning process was everywhere the rule' and that:

Boys at Harvard were made to defend a great many theses explaining not what they had learned but what the structure of the curriculum was: 'languages are to be *learned* before the arts,' 'Languages are more readily *learned* by practice than by rule,' 'The art of physics is to be *learned* (*discenda*) from things, not fabricated in the mind' (Ong 1983, p. 165, emphasis in original).

Similarly, the Calvinist school in Geneva and the proposals of the Scottish Calvinists focused on method and the organisation of learning. The subject matter in Geneva was, with the exception of French, essentially that of the Arts Scholastic: in Scotland, the proposed program for the first two years consisted of reading, catechism and the elements of grammar, followed by four years of Latin and grammar and four years at a college studying logic, rhetoric and ancient languages. The university course was to comprise dialectic, mathematics and natural philosophy, followed by a course in law, medicine or theology. Accounts of what happened to the subject matter of the Arts Scholastic vary according to the perspective of the writer: those who write from 'inside' the curriculum tend to see considerable change as the old quadrivium was broken up into:

... 'a host of separate studies and subjects specialised and differentiated: Botany, Zoology, Physiology and Anatomy ... differentiated and developed by classifications which marked the scientific movement away from the old Aristotelian authority in the advance towards the modern treatment (Watson 1968, p. 2).

Historians observing the curriculum at a system level tend to regard it as having a remarkably stable structure: Brian Simon, writing about the eighteenth and early nineteenth century movements for curriculum reform led by societies and institutions for the advancement of science, observes that:

A sixteenth century scholar would have been altogether at home in ... the second decade of the nineteenth century. The Latin grammar used was that of Lily (first drafted for St Paul's School in 1515) (Simon 1981, p. 99).

From the late seventeenth century there is evidence of changes in the substantive structure of the curriculum, as educationalists adapted new directions in natural philosophy and mathematics to their own ends. In Germany, Jesuit universities embraced mathematically based experimental physics and by the mid eighteenth century had adopted many of its metaphysical underpinnings, including atomism and heliocentrism (Hellyer 1998). In England, the Dissenting academies introduced Cartesian and then Newtonian physics, and the emerging eighteenth century sciences of electricity and chemistry into the curriculum (Goldstein 1996).

While the content of the teaching program continued to change, the mode of ordering embedded in curriculum: graded courses of study, syllabi, knowledge arranged into subjects and topics and transmitted through planned lessons; consolidated as the dominant form of school organisation. The echoes of Scholastic contained in school subject names (Geometry, Arithmetic and Grammar) were eclipsed by the arrangement of this subject matter as units of knowledge associated with information and skills transacted in the world outside the university and other institutions of the Renaissance knowledge economy.

## Method and the institution

Having separated itself from the traditional body of knowledge to become 'an indifferent mode of ordering' referenced to pedagogical practice in general, *method* was applied to the sequencing, grading and transmission of units of knowledge within the map of observed particulars that was the new form taken by the schooling body of knowledge. The question of what particulars should be included in the units of

knowledge faded into the hinterland – where it mutated in the enactments of scientific and technological rather than pedagogical change. In this regard advances in print technology and its gradual acceptance into university culture were significant. As the subject matter of the scholastic became readily available as textbooks priced for the growing urban middle class market, control over the circulation of the pool of knowledge from which curriculum subjects had been selected passed out of university hands and into the hands of a burgeoning number of publishing houses and societies for the advancement of science – a proto-modern knowledge economy. As the focus on method in schooling cohered with its expression in empirical philosophy and with the growing evidence of the application of this new knowledge in economic pursuits, natural philosophers and the non-conformist clergy wrote extensively on the benefits of the new methods of learning as a way of organising learning about the phenomenal world. John Dury, influenced by both Frances Bacon and the works of Comenius, was to promote the establishment of a universal system of schools whose curriculum enabled the pupils to learn about:

All things natural and artificial extant in the world, whereunto their imagination shall be led in a certain method to cause them to reflect orderly upon them and observe them in their several properties, uses and references unto man by trades and manufactures (John Dury, 'The Reformed School', 1650, cited in Boyd 1966, p. 270).

The subject around which the dominant university discourse of the sixteenth and seventeenth centuries met that of the learned societies was that of method – a core component in knowledge production and the undeniable core of the curriculum, around which an ever-increasing set of procedures were accreted, augmenting method with organisational allies: the more work that was done, the more independent the curriculum became: consolidating as an entity because it was articulated, and articulated itself, within an increasingly complex collective that was active in so many settings.

A significant moment in the transition from a Renaissance to a modern form of method occurred when it broadened its focus from the organisation of subject matter to become an assembly of techniques for organising people, places and time: in this transition a method for doing a body of knowledge became a method for doing an institution. The universities that had enacted the incorporation of the Arts Scholastic – literally a body of knowledge that existed to reproduce itself – together with a growing network of grammar schools, shifted their operational emphasis from their contribution to the reproduction of a body of knowledge through the professions of the knowledge economy, to the production of bodies possessed of useful information

and skills applied in administration, commerce, finance and manufacturing. How to manage the increasing numbers that made up the student body was a question for individual teachers and for the institution as a whole. The form the curriculum took as an institutional technology – materialised through enactments of disciplinary technologies of time, space and movement, emerged as a means of demonstrating that the institution was capable of satisfying the demands of the economy and the community for orderly transitions.

Foucault describes disciplinary time as a precise form of measurement common to the military, correctional institutions and schools, in which minute divisions of time are correlated with activities to be obeyed. As a mode of ordering, disciplinary time aligned well with unitised and graded knowledge and pupils classified according to age and ability, and was introduced into schooling by de la Salle in France, the Calvinists elsewhere in Northern Europe, John Knox in Scotland and the Methodists in England (Hamilton 1989; Simon 1968), reaching maniacal heights under the monitorial system of the nineteenth century. As a technology for managing the classroom, the syllabus and the movement of pupils:

Disciplinary time ... was gradually imposed on pedagogical practice – specialising the time of training and detaching it from the adult time ... arranging different stages, separated from each other by graded examinations; drawing up programs, each of which must take place during a particular stage and which involves exercises of increasing difficulty; qualifying individuals according to the way they progress through these series. For the ‘initiatory’ time of traditional training (an overall time, supervised by the master alone, authorised by a single examination), disciplinary time had substituted its multiple and progressive series. A whole analytical pedagogy was being formed, meticulous in its detail (it broke down the subject being taught into its simplest elements, it hierarchised each stage of development into small steps) (Foucault 1991, p. 159).

## **The modern learner: curriculum and the modern settlement**

Curriculum is an expression not only of a mode of ordering of modern knowledge, but of modes of organising and processing modern learners. In other systems for learning – such as Renaissance universities and Islamic centres of law, to name the alternative systems discussed in this chapter, the question of the learner’s behaviour appears to be of marginal significance to the process of learning per se. The students at the mosque were expected to defer to the leadership of teachers and participate in

argumentation, and students in Renaissance universities needed to diligently apply themselves to the complex rigours of the pre-Ramist dialectic. These are culturally acceptable dispositions and behaviours associated with the subject matter of learning – while involved in the act of learning. The modern curriculum, on the other hand, constructs learners as disciplined by rules about time, movement and behaviour *in order to be permitted to learn*.

The Egyptian school system that evolved in the late nineteenth century under the authority of the ‘Commission for the Organisation of Knowledge’ was, from the outset, a national project of considerable proportion and immense exactitude: the schools were classified into elementary and secondary levels; the elementary schools were classified into three ranks according to size that was in turn related to the population of the village or town; a village of 2,000 to 5,000 people was to have a third-class elementary school with one teacher for forty pupils; villages of 5,000 to 10,000 were to have a second-class school (two teachers and two classes). Every large town was to have a first-class school and every provincial capital a secondary school, with the highest ranking schools located in the centre of Cairo. Schooling was divided into three stages – primary, preparatory and final – and pupils were allotted to one or more stages according to class and status (Mitchell 1988, p. 77). Examinations were to be conducted at the end of each month (by the teacher), the end of each term (by the superintendent of the school) and at the end of each year (by the governor of the district). There would be prizes awarded annually and the pupils would process (in their identical national uniforms that identified individual schools by the colour of the collar) to the music of a military band. The order of the system as a whole was inscribed in every school building and every classroom:

In all the schools the layout and furnishings were to be identical: rows of benches without backs, a dais and blackboard of the correct size, a chair for the teacher. The separate buildings were to be placed in geometrical relation to one another, to achieve the same order ... The interior space for eating and sleeping in each building was planned and laid out with the same regularity. ‘In the refectory there are seventeen tables with thirty places at each table. In the dormitories the beds are placed at intervals of one to every 21 cubic metres of respirable air’. The entire establishment, it was said, should have ‘a pleasing appearance of order’ (Mitchell 1988, p. 78).

Mitchell goes on to observe that an attempt to construct order had become an end in itself:

... physical space – even respirable air – has become a surface and volume that can be divided up and marked out into places where individuals are positioned (ibid).

This remarkable processing of knowledge, spaces and people was not limited to schooling: the project to modernise Egypt saw the reconstruction of the centre of Cairo, the erection of buildings with European facades and the manufacture of ‘model villages’ that replaced traditional household patterns with dwellings of the same geometric precision as the schools, and replaced the community *enactment* of household creation by modern fabrication. The modernisation embodied in the school system, model villages and the remodeled Cairo was a profound recasting of Egyptian society: social, spiritual and economic meanings of space, time, and the rhythms of daily life were reordered around a new representation of the world. Mitchell identifies this as a notion of materiality that, like the geometric construction of the classrooms:

... presented the world as something simply two-fold: a world of what we call things, which exist by appearing, as the material realisation of a separate realm of intentions or instructions. This mysterious technique, the new order, was the sudden possibility and need for education (Mitchell 1988, p. 93).

What was happening in Egypt through the device of the plan and codes of order was the creation of the bifurcated modern world – a world of things separate from people; and people allocated to hitherto unknown groupings and separations: children into different age and ability groups, household groups into separate dwellings. Schooling came into being in Egypt as a consequence of modernity mobilised from elsewhere and came to be essential to its production and reproduction:

... The new methods of enframing, containing and disciplining ... not only made possible the modern process of schooling; they created the need for it (Mitchell 1988, p. 92).

The homologous world where ‘nothing occurs except as something that resembles, differs from, duplicates or re-enacts something else’ was being remade into one in which reality is something referred to – the ‘simple hierarchical division that for the modern world is what constitutes order’ (Mitchell 1988, p. 61) – an order of representations, not appearances (Foucault 1970); an order based on particularising and dividing things into manageable parts (Appadurai, in Verran 2001, p. 72). The colonial curriculum – and this is an entity at work in the making of industrial England, Puritan America and Enlightenment Australia as well as in their colonial outposts – is the most commonplace everyday instance of (one/many) definitive, cadastral generalising, with which we all routinely engage, and whose particularising ways we ‘naturally’ adopt. Modernity is celebrated as the great leap forward in human progress, unfolding as the most advanced civilisation discovered the secrets of science, and harnessed its powers to describe and appropriate nature. These very categories

‘discovery’; ‘nature’; ‘progress’; ‘advanced’; obscure their own historicity, in particular the historicity of ‘nature’ (and non-humans) and ‘society’ (and humans): fabrications of empirical philosophy that have gone on to become the primary categories of the modern mode of ordering (Latour 1994). The implications of this fabrication have been profound for both humans and non-humans – all the more so given that they are virtually unrecognisable as fabrications because of their very familiar ‘nature’. The language, as it were, says it all.

The emergence of the *modern constitution* (Latour 1994), that separates *nature* and *society* into represented realities, can be located in the disputes about epistemology and social order that took place in the seventeenth century, most famously between Boyle and Hobbes (Shapin & Schaeffer 1985), and in the emergence of empirical scientific practices that thereafter ‘represent’ nature, and the invention of the social contract that represents citizens (Latour 1994, p. 27). The notion of representation here conveys the sense of speaking for and displaying or demonstrating. Science, in speaking for nature, displays nature as knowable and manipulable; the social sciences, in speaking for society, claim the citizen as knowing (of nature) and organised according to the social scientific practices that order the distribution of knowing. Curriculum plays a dual role in the performance of this modern constitution: representing the nature of the citizen as modern learner as the subject of methodical teaching and classroom discipline and representing the nature of natural knowledge as theorised school knowledge about matters of fact. Through curricula organisation of instruction, humanity is displayed as a measurable manipulable entity whose capabilities, characteristics and potential can be known and knowing, organised, tested, recorded, collated, classified and compared. Through the everyday routines of the classroom, learners are engaged in forms of reasoning about the world at large and self in that world (Popkewitz 1997, p. 144) and in the achievement of dispositions towards learning that locate learning, and themselves as modern learners, in the social relations of the classroom in the ordered/ordering microworld of the school.

It is this framing of the role of curriculum in the formation of the modern learner that I carry forward to Chapters Four and Five where I explore enactments of curriculum in its vocational modality, first known in Australia as ‘technical curriculum’, then as ‘TAFE curriculum’ referring to *Technical and Further Education*; and finally as ‘TAFE curriculum’, referring to *Training and Further Education*. In colonial Australian vocational schooling (explored in Chapter Four), technical curriculum represented a particular expression of the modern citizen as a capable nation builder. The popularly imagined utilitarian role of vocational schooling in the labour market is shown to be

more illusory than real: technical curriculum was first a technology employed by civic leaders to help carve and Enlightenment 'civilisation' out of the rough Australian bush. The historicity of Australian technical curriculum reveals its progressive appropriation by government as a tool to ameliorate socio-economic disadvantage and to smooth labour market shifts. Finally, as will be discussed in Chapters Five and Six, TAFE curriculum takes on a role *as* policy: driving an archive machine that tries to encompass workplaces as classrooms. Having extended itself, like a florid corporate raider into domains way beyond its original (manageable) territorial boundaries, this overblown curriculum-as-policy is constitutionally unable to bend its definitive ordering mode to meet the training demands of a globalising economy, and to enable the performance of a less definitive mode of modern learner.

## Endnotes

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<sup>1</sup> The word adopted for education – *tarbiya* – was an appropriation of its previous meaning in Arabic of ‘to breed’, or ‘to cultivate’, referring to anything that should be helped to grow – the morals of children, crops, cattle (Mitchell 1988, p. 88).

<sup>2</sup> Ong further confuses matters by occasionally using ‘*doctrinae*’ to mean ‘teaching’ and elsewhere using the term to refer to doctrines or methods (as in Galen’s three *doctrinae* – analysis, synthesis and definition); elsewhere again *art/ars* is translated as teaching (method). In an extract from Peter of Spain’s *Summulae Logicales*, Ong translates *methodorum* as curriculum.

<sup>3</sup> To avoid confusion in this chapter and to ensure that curriculum does not end up located in the ‘world-out-there’, I will refer to the mode of organisation of the Medieval and Renaissance universities and schools as ‘the scholastic’; to the reformist modes of ordering that emerged during the sixteenth century as the ‘Ramist curriculum’; and to the post-Ramist curriculum that emerges in the seventeenth century as the modern curriculum. Where I am citing authors who have ‘anachronistically’ used ‘curriculum’ I have, of course, left their usage intact.

<sup>4</sup> In Medieval and Renaissance medicine the method for effecting a cure was tied to notions of explaining (or teaching) the cure.

<sup>5</sup> Ong elsewhere maintains that Jesuit universities and others administered by religious orders ‘... were not the chaotically active oath-infested teachers guilds such as made up the universities like the University of Paris, nor were they student guilds such as made up the University of Bologna’ (Ong 1983, p. 133).

<sup>6</sup> In Ong’s terms: ‘to the medieval mind, *methodus* means virtually a curriculum subject’ (1983, p. 226).

<sup>7</sup> The etymological Greek of ‘method’ is in the rhetorical organisation of thought. Ong argues that it was a long evolutionary process that eventuated in a general attention on ‘a routine itself instead of a routine of thinking or discoursing *about* a routine of efficiency’ (Ong 1983, p. 225).

<sup>8</sup> The process of argumentation through which Ramus elucidated his reforms involved the detailed disentanglement of centuries of prior argumentation – densely ornamented with rhetorical flourishes and dialectical conventions that the twenty-first century mind struggles to decipher. An associated and perhaps more difficult problem is that which resides in the very success of Ramism and the many other strands of thought and practical experimentation that led to method and logical analysis becoming firmly established in the Western psyche (Ong 1983, p. 295) and materialised as the very basis of the curriculum. The twenty-first century Western frame of mind is so steeped in method and logical analysis as simply ‘thinking’, that its invention as *a* mode of thought is difficult to grasp. As Walter Ong points out in a lengthy discussion of scholasticism, the majority of the protagonists in its formation and subsequent humanist re-formations will remain unknown to us: in part because their identities have become absorbed as innovations came to dominate philosophical discourse (for instance, in the way that Peter of Spain’s quantification of logic and Agricola’s subsequent *place-logic* were generalised as the singular ‘logic’); in part also, due to the virtual disappearance of Latin and the loss of access to original texts. Those Ramist and other innovators who *are* known to us (including Philip Melanchthon, founder of the Lutheran Gymnasium of Nuremburg, and Johannes Sturm of the Strasburg Gymnasium) will largely

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remain absent from this brief excursion into the precursors of the modern curriculum, as the philosophical and pedagogical debates and myriad trajectories of thought lie beyond my thesis and the space available.

<sup>9</sup> This is not to say that Ramist dialect did not influence the organisation of preaching, law and medicine. As Hotson points out, Aristotelian logic had little utility for ‘such mundane problems as administering a local law court or preparing a popular sermon’, as they were applicable only to a limited range of theoretical problems. In Ramism, lawyers, preachers, administrators etc. found a basic set of tools for the development and organisation of an argument on any subject (Hotson 1994, pp. 35–6).

<sup>10</sup> The Ramus and Talon Inventory lists over 750 separately published editions of single or collected works by Ramus or his collaborator Talon, and 250 editions of the *Dialectic* alone. Almost all publication occurred in the century from 1550–1650 (Ong 1983, p. 5).