The categories of space and time are usually seen as simple empirical tools for ordering sense data. That space itself is produced and brought into a scheme of order is an idea which has come to be discussed and has gained currency from the latter half of the twentieth century. It is necessary in the light of the present work to unearth the history of the philosophy of space over the ages. This shall simultaneously also demonstrate the gradual emancipation of the sciences and especially mathematics from a common root shared with metaphysics. The emancipation becomes complete by the mid nineteenth century. My work shall however, deal with the period from late eighteenth century to mid nineteenth century. Generally seen as the age of Enlightenment, the period is still caught up amidst an uncanny relationship between arts and sciences where each of the two justify their existence through a language of the other. Construction of space during this period was enmeshed within the ongoing debates of the time and utilized the discourses on aesthetics and the sciences to legitimize the new emerging spatial disciplines of geography, topography and geology, which in turn, along with the pure arts and sciences were used for efforts in constructing space.

Early ideas of space

Before the appearance of the theory of relativity of Einstein, it was held that space and time were independent and fundamental realities. When men began to think about the nature of space, they thought of it as an all-pervading ether or as merely a pre-given container. Since a thing can move from one part of space to another, it seemed that there was something, a place or a part of space to be distinguished from the material objects which occupy space. Space is a phenomenon both in relation to the concrete, sensible world as also the ideal. Although man's first sensations of space begin with his apprehension of relative relationships of bodies in the space of his concrete practical life, space itself assumes dimensionality but as a concept remains, absolute.
Some of the Pythagoreans seem to have identified empty space with air. Parmenides and Melissus also denied that there could be truly empty space. They thought that empty space would be nothing at all, and it seemed to them a contradiction to assert that a nothing could exist. On the other hand, there seems to be something wrong with treating space as though it were a material, which, however subtle, would still itself have to be in space. Democritus and the atomists clearly distinguished between the atoms and the void which separated them. However, the temptation to think of space as a material entity persisted, and Lucretius, who held that space was infinite, nevertheless wrote of space as though it were a container.  

Plato (427-347 B.C.) too, appears to have thought of space as a receptacle limited by geometrical surfaces. In this, according to some, he anticipated the view of Descartes, who first broached the problem of how empty space could be distinguished from non-empty space. Aristotle (384 – 322 B.C.) tried to bypass the difficulty raised by the atomists of the distinction between the atoms and the void, by treating the concept of space in terms of place, which he defined as the adjacent boundary of the containing body. It, therefore was a repetition of the earlier notion of space as a substratum or ether, but it is probable that Aristotle was trying to avoid this and that he meant to define place by reference to the cosmos as a whole. Aristotle thought of the cosmos as a system of concentric spheres, and the outermost sphere of the cosmos, in his view, defined all other places in relation to itself. In the Aristotelian cosmology, each of the various elements tends towards its own place. Thus heavy bodies would tend toward the centre of the earth which was also the centre of the universe. He seems to have held two irreconcilable ways of thought – the notions of space as a thing as well as a system of relations (between bodies). The Aristotelian tradition held that space and time were the ‘categories’ which enabled the ordering and classing of the evidence of the senses. Therefore Aristotelian space and time were empirical tools for ordering sense data or generalities considered superior to the sensory evidence.

In the late Middle Ages, the idea of space springs up in several writers in connection with God’s omnipotence. Thomas Bradwardine in mid fourteenth century, came up with the idea of an ‘infinite imaginary vacuum’ which God can make real, should He decide to move the world. Nicole Oresme also speaks of an ‘imaginary infinite and motionless space.

51 Ryckman in Craig 1998a. 28.
52 Craig 1998b. 60.
outside the world’: “outside the firmament there is a bodyless empty space in a manner that differs from that of any full and corporeal space”.53

By 1600, the concept of space had become familiar in natural philosophy. In Giordano Bruno’s words:

Space is a continuous three-dimensional natural quantity in which the magnitude of bodies is contained, which is prior by nature to all bodies and subsists without them but indifferently receives them all and is free from the conditions of action and passion, unmixable, impenetrable, unshapeable, non-locatable, outside all bodies yet encompassing and incomprehensibly containing them all.54

The thinking of Rene Descartes (1596 – 1650) was viewed as a decisive point in the working out of the concept of space, and a key to its mature form. According to most historians of western thought, Descartes had brought to an end the Aristotelian tradition which held that space and time were among those categories which facilitated the naming and classing of the evidence of the senses, therefore making the status of such categories i.e. space and time somewhat unclear. Descartes held that the essence of matter is extension, and so, in his view, space and substance are identical, for if the essence of matter is to be extended, then any volume of space must be a portion of matter, and there can be no such thing as vacuum. With Cartesian logic, space entered the realm of the absolute. Space came to dominate, by containing all senses and all bodies. Also, around this time, the ancient distinction between geometry and the science of number was blurred by the invention of analytic geometry by Fermat (1629) and Descartes (1637). It is only with the introduction of numerical coordinates into the plane that geometry acquired the requisite generality of a ‘science of space’.55 As against Descartes, Leibniz (1646 – 1716) held a relational theory of space, whereby space is in no sense a substance but is merely a system of relations in which indivisible substances, or “monads”, stand to one another. In a slightly different form, the relational theory of space has continued to rival the Cartesian, or “absolute” theory.

Isaac Newton’s (1643 – 1727) idea of space stems from this tradition benefiting from the conversion of geometry into a science of space by Descartes. Newton held metaphysical and absolute theories of space and time as strictly irrelevant to his dynamical theory. What is important in Newton’s dynamics is not the postulated notion of Cartesian absolute space, but that of an inertial system. Newton sought to ascertain the forces of nature by studying

53 Ibid. 60.
54 Bruno, G. ‘On the Immense and the Uncountables’ (1591). Quoted in Ibid. 60.
55 Craig 1998a. 30.
the motions of bodies in space which he described by means of the varying coordinates of some suitably chosen points in it. In a posthumous paper published in 1962, Newton stressed that space evades the traditional classification of entities into substances and has ‘its own manner of existence’.56

In his Prolegomena to any Future Metaphysics (1783), Immanuel Kant (1724 - 1804) produced a curious argument in favour of an absolute theory of space. His argument in order to refute the relational theory was that, if there would be only one hand in the universe, would that be a left or a right hand? For if the relational theory would be correct, it couldn’t be either, for the relations between parts of a left hand are exactly the same as those between corresponding parts of a right hand. For the relationists, if there were only one thing in the universe, a human hand, it could neither be called the left or the right hand. Therefore, in order to define ‘right’ or ‘left’ one needed the notions of ‘clockwise’ or ‘counter-clockwise’ rotations or the bodily asymmetry. The intrinsic difference between the right and the left or mirror images depend on the relation of each to space. However, in his Critique of Pure Reason (1781), Kant argued both against the absolute theory of space and a relational view which of course followed from the questions raised earlier. He held that space is something merely subjective, or “phenomenal”, wherein in thought, we arrange non spatial “things-in-themselves” bringing us back to the older notion of categories. Space, for Kant, was a ‘form of sensibility’:


Kantian space, though a tool of knowledge and a means of classifying phenomena, was however, clearly separated from the empirical sphere, in its being logically independent of experience, belonging to the a priori realm of consciousness of the ‘knowing’ subject, or in other words, the precondition to human knowledge.

Till the mid twentieth century, the word ‘space’ was attached with a strictly geometrical meaning. The word still designates an empty or potentially empty expanse among things. In scholarly research too, it usually meant a boundless extension which supposedly contained everything. Its meaning has become well grounded in ordinary

56 Craig 1998b. 59.
experience and can etymologically be traced back to the Latin 'spatium' meaning 'race track', or generally 'distance', 'interval' or 'terrain'. In the scholarly circle, space was accompanied by such epithets as Euclidean', 'isotropic' or 'infinite' making the concept appear an entirely mathematical one. Through the influence of Newtonian science on Euro-American common sense, this association has become so entrenched in ordinary usage that it is normally viewed as the primary meaning of the word 'space'.

From metaphysics to numerical space

Beginning from the Renaissance, reaching its culmination in the Enlightenment, and still continuing, mathematics has gradually and steadily emancipated itself from metaphysics from which both mathematics and philosophy originated. Mathematicians assert a claim to scientific status, which is seen as both self-sufficient and necessary. According to a once customary view of mathematics, the two primordial mathematical conceptions are the notions of whole number as exhibited in counting and ordering, and continuous magnitude or mere extension, as determined in measurement. Hence mathematics is ultimately rooted in the sciences of number like arithmetic, algebra, analysis, and the science of space as geometry. However, the conception of geometry as the science of space seems to have emerged only in the late Renaissance, as the 'modern' notion of space arose around 1600 A.D. whereas the science of number predates it by centuries reaching back to the Pythagoreans, though the Pythagoreans initially did not distinguish between geometry and number: numbers were conceived as dots in particular geometric arrangements. Even here, a general subordination of geometry is noticeable which is placed below the science of number as Plato in his Republic places the study of geometry after the study of number on the grounds that , unlike the figures of geometry, numbers have no sensible and tangible bodies but are purely objects of thought accessible only to the soul. Only irrational magnitudes could be represented geometrically. A greater reason for the subordination of geometry was simply its very presupposition of numbers when speaking of squares, triangles, rectangles, etc. The ancient distinction between geometry and the science of number was blurred by the invention of analytic geometry by Fermat and Descartes in the seventeenth century. This permitted the study of geometric properties of curves through algebraic and analytic relations through equations subjecting a variety of curves and figures to mathematical scrutiny. The crucial idea here was the introduction of numerical

59 Craig 1998a. 30.
coordinates into the plane. Thus it is only with the introduction of coordinates that geometry acquired the requisite status of the science of space. However, ironically, geometry attained this status only through a method which reduced geometry to number.

However, the triumph of the analytic methods was soon subject to suspicion, from Newton and others who condemned the incorporation of such ‘metaphysical’ entities as infinitesimals and negative numbers in the system of coordinates. What was questioned here was the status and authenticity of the diagrams used as geometric proofs. Were these diagrams mere visual aids in order to clarify the abstract or were they intrinsic to the understanding of geometric truth as visual evidence provided by representations in the mind’s eye of intuition. For Kant, mathematical knowledge is attained through construction of concepts by the rational mind which correspond to the already existing universal concept and geometric proofs such as representative diagrams, thus operate as ‘chain of inference guided throughout by intuition’.  

From nature to abstraction

The gradual process towards rendering of space in terms of mathematical figures also, ironically, coincides with another similar transitional concept in the history of space as it proceeds from nature to abstraction. Initially, spatial measurement had its own unique units of measurement usually borrowed from the parts of the body: thumb’s breadth, feet, palms, hands and so on. Space, in the way it was measured, talked about and represented, held an image and a living reflection of human bodies. The body’s relationship to space held an immediacy which subsequently got undermined through its steady take over by number or the imposition of the abstract decimal system. The transformation in the manner of measurement of space indicates the general tendency towards its homogeneity, towards quantifiability and therefore inevitably leading to the elimination of the body when appropriated into the axioms of science. 61 Thus different mathematical spaces came to be distinguished from physical space, as also from a perceptual space of intuition.

Positivism and the science of space

These debates in mapping the shift from the ‘philosophy’ to the ‘science’ of space, are also central in marking the developmental stages in the “evolution of the Western

60 Kant 1929.
Those areas of enquiry which were not considered amenable to standard scientific methods, or did not pursue the same kinds of questions were left out of the scientific fold, whereas those like geography which aspired to join the rank of sciences, were obliged to adapt to the traditional model of ‘exact science’ along with its rigid limitations and in terms of the questions asked. A large measure of the strength, superiority and invincibility that characterises science have, in fact, been derived from the theoretical justification it received from the long line of philosophers of the theory of knowledge beginning from the British empiricists to the modern positivists.

Science, from its original connotation derived from the Latin ‘scientia’ meaning knowledge, has come to imply the constant expansion of knowledge about the world and the universe in accordance with the approved method of conducting enquiry which is that of empiricism. An essential characteristic of empiricism, which takes its name from the Greek word for experience (empeiria), is its commitment to the position that all knowledge is dependent upon experience, and this has been and still remains a widely accepted tenet of science and education. The source of such a view can be traced to what is called the ‘sense-empiricism’ of Francis Bacon, the founder of the British empiricist school of philosophy. In his *Novum Organum Scientiarum* (1620), Bacon proposed a model of inductive reasoning starting from specific cases to general conclusions, in gradually increasing levels of generality. In practice this meant carefully collecting data from the natural world and extrapolating common properties obtaining general inferences from the information. In his *Discourse on Method* (1637), and other works, Descartes further consolidated the scientific method by developing the process of deduction. This involved inferring conclusions from a premise after, eliminating all illogical assumptions until the only possible conclusion remains which cannot be doubted. The other basic Cartesian feature is, of course, the breaking up of the human body into component parts such as the body and the mind. This general tendency of segregation is a reflection, in turn, of the division of disciplines as well giving rise to separate academic regimes from the sixteenth and the seventeenth centuries onwards. This kind of reductionism partly explains the further proliferation of disciplines in the scientific revolution during that time, as different subjects were given responsibility for exploring separate aspects of nature, where a similar intent was observable earlier in the classicists led by Plato, energising a hierarchy of subjects and scholarships. In the early

---

62 Ibid. 2.
63 Bowen 1981. 3.
64 Moran 2007. 151.
nineteenth century, August Comte gave the name of ‘positivism’ to the movement which came to dominate the emerging social sciences as well as the physical or natural sciences in the ensuing era. Science itself was extolled as a means of ensuring man’s mastery over the material and natural world. Throughout the nineteenth century and at the time of the European industrial revolution, science, a basic aspect of the Enlightenment program, promised a sure means of progress for the Western man in the use of knowledge for the control of nature and the world. Comte in France and the Utilitarians like James Mill and John Stuart Mill argued for a science which excluded all speculations eliminated traditional religion, idealist philosophy and metaphysics replacing these with ordered, objective and reliable knowledge of man and nature. Needless to say, that these were also the heydays of empire, and science and technology were important tools to Western colonial aggrandisement which shall be discussed at length in the following chapters.

The scientific self-confidence arises from its denial of accepting metaphysical or subjective concerns over which there are grounds of doubt and scepticism, confining its observation only to matters of the biological or mechanical world that can be known ‘objectively’ or ‘neutrally’. Contemporary philosophers today, view the prevalent scientific methods of enquiry with suspicion:

 [...] the main difficulty comes from the interpretation of experience. Where this is identified purely with some form of first-hand sense-experience, as in the Baconian tradition, the empiricist position can become restricted to a kind of sensationism which regards knowledge as a series of sense-impressions, or even to the sort of objectivism [...] which suggests that objects themselves, directly impinging on the senses, can provide accurate knowledge as long as the mind is not permitted to intervene.\textsuperscript{65}

One of the ways, according to Jean-François Lyotard, in which division between natural sciences and human sciences have been legitimised is by thinking of ‘nature’ as “an indifferent, not deceptive, opponent”, i.e. nature in natural science is seen as a mute and predictable referent, whereas, in the human sciences, “the referent, (man) is a participant in the game, one that speaks and develops a strategy … to counter that of the scientist”.\textsuperscript{66} New theory of current scientific research like relativity theory, quantum theory, chaos theory and fractal geometry defy the conventional ways of seeing natural phenomena as certain, changeless and verifiable.\textsuperscript{67} Others like Thomas Kuhn argue that scientific knowledge does

\textsuperscript{65} Bowen 1981. 3-4.  
\textsuperscript{67} Relativity theory is concerned with how objects behave at very high and normally unmeasurable speed. It
not emerge from or in a vacuum. In his *The Structure of Scientific Revolutions* (1962), Kuhn explains that scientific knowledge takes place within what he calls ‘paradigm’, which is that domain within which only certain kinds of knowledge production are possible. Within those paradigms, inconvenient ways discoveries which challenge dominant ways of thinking tend to be disregarded or devalued. In this, of course, the concept of ‘paradigm’ recalls to mind the Foucauldian concept of ‘discourse’ and ‘episteme’ and Gramscian concept of ‘hegemony’. Therefore science has been used and produced only to perpetuate certain ways of thinking and making sense of the world which serve the interest of the hegemon. Paul Feyerabend, another philosopher condemns the post-Enlightenment rejection of magic, religion and myth in scientific thinking and prescribes a return to the very same with what he calls ‘epistemological anarchism’ in his work, *Against Method: Outline of an Anarchist Theory of Knowledge* (1975).

**Geographical space**

Similarly, the ruling tenets of geography, which had adopted the foundational theories of physical science, have also been challenged in the present times. The main impetus for this has been interventions from interdisciplinary conceptions of space, whereby space is conceived not merely as a neutral category as discussed earlier, but culturally produced. Thinkers, today attempt to return back to space as its ‘lived reality’. And for this, one needs to rethink, examine and interrogate the ways and means through which space/place has been constructed or produced. Derek Gregory, in his *Geographical Imaginations* (1994), talks of textuality of geography identifying and demonstrating how a whole range of different agents and practices have constructed space and tries to establish a connection between social practice and human geography, taking into consideration the works of other contemporary thinkers in the field of humanities and social sciences like Martin Heidegger, Frederic Jameson, Michel Foucault and Edward Said. Geographical Imaginations, is a major intervention in the discipline of geography or in geographical discourse. While introducing the history of geography to those outside the discipline, it also questions the construction of that history. Gregory sketches out two narratives: the first

---

*suggests* that areas of the external world that we tend to regard as fixed, such as time, are in fact relative. Quantum theory argues that subatomic particles do not behave according to classical laws, and that this indeterminacy limits the accuracy of measurement. Chaos theory suggests that complex systems, which are governed by deterministic laws and should therefore be predictable, are in fact chaotic because their sensitivity to initial conditions produces a huge range of variables. Fractal geometry aims to show that complex objects such as snowflakes, trees and coastlines have an infinite, and thus unmeasurable number of fractional dimensions. Godel's theorem and fuzzy logic, argue that certain mathematical formulae are neither provable nor disprovable.
concerns what he calls the “socialization of human geography” or in other words, the existential significance of place, space, and landscape or the connection between social practice and human geography, or inhabited space. The second concerns the discipline of humanities and social sciences which have taken interest in questions of space, whether public, private, domestic, feminist, centre and the margins. For example, Edward Said’s classification of the ‘Orient’ as a conceptual topography, an imagined landscape, elaborates and pioneers this new interest in spatiality in post colonial studies.

Carl O. Sauer’s works, *Man in Nature* (1939) and *Land and Life* (1963) open a new horizon in new cultural geography by thinking of landscapes as not natural but culturally produced, by forging links between geography and other subjects such as anthropology, sociology, archaeology and history. More work in the area of ‘space’ has been done by critics like Henri Lefebvre, Edward Soja and David Harvey. Soja, in his *Postmodern Geographies* (1989), talks of the interconnections between power and discipline to show how consequences are hidden in order to create an innocent understanding of social life in space.

**Social production of space: Lefebvre on spatiality**

In his *Production of Space* (1991), Henri Lefebvre argues that space is a constitutive dimension of social relations, that it is at once a central field of action and a basis for action. Lefebvre emphasizes the temporal dynamic of spatialization, of its being processual and historically embedded. Lefebvre calls for a denouncement of the original, strictly geometrical meaning in Cartesian logic which considers space, as discussed earlier, as pre­given, absolute and infinite. He also calls for a “unitary theory”, whose aim would be to discover or construct a theoretical unity between ‘fields’ which are thought of separately. These are: firstly, the physical which include nature and cosmos; secondly, the mental, including logical and formal abstractions; and, thirdly, the social. For him:

> We are concerned with logico-epistemological space, the space of social practice, the space occupied by sensory phenomena, including products of the imagination such as projects and projection, symbols and utopias.\(^{68}\)

He returns back to all those concepts so long defined in terms of broadest generality and the “greatest scientific abstraction”, which determine our knowledge of the material world. Energy, space, time are interlinked as are what in the common parlance called ‘matter’,
'nature' and 'physical reality'. What is called 'substance' in the old philosophical vocabulary, or in other words, cosmos or world, in which human being with its consciousness resides, can be explained through the linkages of the mentioned concepts. Talking about 'energy' brings to mind that it needs to be deployed in 'space'. When 'space' is evoked, it automatically indicates what occupies that space and how. Invoking the concept of 'time' too, entails an understanding of "what it is that moves or changes therein". Therefore, 'space' considered in isolation, even in physics is an empty abstraction. However, physical theory's search for unity is quite different to that of social theory for, according to Lefebvre, "there is no reason to assume the isomorphism between social energies and physical energies, or between 'human' and physical fields of force".69

In talking about the schism and the distance that have evolved between the idea of the 'ideal' space which belongs to the mental categories and that of the 'real' or the space of social practice, Lefebvre looks for an ideal theory which can transcend this compartmentalization. For him, 'philosophy' and 'physical science' both, have been directly responsible for bringing about this gap, and therefore, cannot be reemployed to bridge it. Though philosophy, as a discipline had started out in connection with the study of real space of the Greek city, this connection wore out with its later developments. However, certain philosophical concepts can certainly be engaged with in analysing space. In considering alternative ways, theory and paradigms which can be employed for studying space, Lefebvre comes up with two probable systems of looking at it: one of them being literature and the other being that of sign or coded message. Literary authors, in writing about and describing places, landscapes and sites, have made subtle expositions on space: "...any search for space in literary texts will find it everywhere and in every guise; enclosed, described, projected, dreamt of, speculated about".70 Writers, from times immemorial, have conjured up spaces/places through writing, employing all the right tools and methods of representation such as myths, metaphors and imagery. Another way of relating the abstract logical and mathematical space with practical, sensory realm of social space is by engaging notions that of the sign and the signifier, information and communication, of message and code and thereby conceiving space as a text. One remains on the purely descriptive level when codes from literary texts are applied to spaces. If semiology is employed, any attempt to use codes to decipher social space reduces space itself to the status of a message and the inhabiting of it to the status of a reading. However, both these methods may entail the

---

69 Ibid. 14.
70 Ibid. 14.
danger of evading history and practice. Between the sixteenth century and the nineteenth
centuries, Lefebvre explains that there existed exactly such an underlying code:

[...] at once architectural, urbanistic, and political, constituting a language common to
country people and townspeople, to the authorities and to artists — a code which
allowed space not only
to be 'read' but also to be constructed.71

A code of this kind must be correlated with a system of knowledge which brings an
alphabet, a lexicon and a grammar together within an overall framework, situating itself
within a syntagmatic sphere comprising of language, ordinary discourse, writing, reading,
literature and so on.

It is also this very sign system which brings about the abstraction of space. It has the
to power to construct or produce a new world different from nature's initial one and this of
course, it does through representation. The history of the rise of Western civilization, is,
according to some, coincidental with the history of the rise in power of the Logos. The
power of Logos, hereby becomes the foundation of knowledge, technology, authority and
finally through these, of colonization and imperialism. Space is formed with, by and in
language — for space is formed conceptually through a chain of verbal and nonverbal
signifier and hence a particular space can be treated as a message and representation as
code. Language in a logocentric world has the ability to establish a realm of certainty which
gradually extends its sovereignty. Space reduced to signs, become part of the commonly
shared knowledge system which defines and determines the world therefore, space which is
encoded in signs should also unfold through a deciphering of the encapsulated code.

Social space, which is both inhabited and philosophised, always tends to transcend
its immediacy and its materiality, for it seems to be always already existing. However, it is
deployed deeply embedded in history, and the past is never completely erased off from its fabric.
Therefore the 'second world' constructed by an erstwhile sign system persists in traces,
relics and memories, for:

The preconditions of social space have their own particular way of enduring and
remaining actual within that space.72

Thus primary nature continues to throw its shadow on the artificially constructed 'second
nature', which needs to be deciphered. This act of excavating, identifying, analysing and

71 Ibid. 7.
72 Ibid. 229.
explaining that what continues to exist in the present is called ‘architectonics’ by Lefebvre much in the manner of Foucault’s method of ‘archaeology’ premised on the idea that epistemes and discursive formations are governed by rules, beyond those of grammar and logic, that operate beneath the consciousness of the individual subject defining set practices and conceptions in a given period. However, whereas Foucault’s archaeology said little of the entrenched contemporary position while it talked of shifts and ruptures in different historical periods, architectonics describes the relationships in space upon which social organization is founded taking into consideration persistence of the past:

The task of architectonics is to describe, analyse and explain this persistence, which is often evoked in the metaphorical shorthand of strata, periods, sedimentary layers, and so on. It is an approach, therefore which embraces and seeks to reassemble elements dispersed by the specialized and partial disciplines of ethnology, ethnography, human geography, anthropology, prehistory and history, sociology, and so on.73

Thus space may be said to embrace a multitude of intersections in the process of its production. If space is a product, our knowledge should extend to its process of production. However, the representations of the relations of production subsume power relations which are also present in space in the form of buildings, monuments and works of art. The important question here is, how is space produced. Specialists in a number of disciplines try to answer the question in their own ways. For example, an ecologist will take into consideration, the ecosystem as their point of departure. Popularly called ecocriticism, it has a dual agenda: it deals with ‘natural’ phenomena that are normally the province of geography and biology and shows them to be the product of cultural and historical forces, inscribed with meaning and metaphor; on the other hand, it examines the ways in which culture brings about a separation from nature, effecting hierarchical differentiation between human and non-human which emerged in the nineteenth century with Matthew Arnold’s characterisation of ‘culture’ as intellectual as opposed to physical labour. Thereby ecologists would examine the relationship between town and country and their respective spaces. One of the founding texts in this area is Raymond Williams’ The Country and the City (1973), which examines the traditional and cultural meanings to the two entities of the city and the village. William here shows how both the city and the country are extremely varied and mutually interconnected since the industrial revolution transformed them both under agrarian capitalism. On the other hand, there can be other approaches to the study of spatial production. Historians of events would establish and analyse a chronology of events which

73 Ibid. 229.
affected decision-making and leading to territorial changes or acts such as construction of
certain monuments. Historians analysing economic relations would study the exchange
between places such as the city and territory or the metropolis and colony usually sea ports.

Any analysis of space and spatial production must entail, however, what Lefebvre
establishes as a conceptual triad in order to articulate the complex spatial relations as they
mould and shape each other. These are: spatial practices, representations of space and
representational space.

'Spatial practice' refers to a dialectical process of both creating and commemorating
space: of producing as well as mastering and appropriating space. The act of deciphering,
seeing or perceiving space is a spatial practice. In a contemporary urban scenario, the
arrangement of daily life with its multifarious activities into neat perceptual spaces seen as
designed for work or leisure can be called spatial practice. It is the way in which space is
seen, understood and intuitively recognised. 'Representations' of space are the ways in
which any space is thought about, grasped, imagined, conceived and formulated. As
Foucault says in his Order of Things, representation is an attempt to define a thing in terms
of mathematics, to bring it as near to mathematics as possible. This is the space particular to
the scientists, planners, urbanists, technocrats, social engineers, cartographers and certain
kinds of writers with scientific bend. Conceptualized space identifies lived space with what
is perceived and conceives it through a system of verbal and intellectually worked out signs.
Numericals, moduli and measurements play a dominant role in this mode of production of
space. 'Representational space', on the other hand, is the space of inhabitants and users,
philosophers and artists. It is space as directly lived and experienced. It belongs to an extent
to the realm of imagination in attempting to appropriate and describe it in terms of usually
non-verbal systems of signs such as used by art. Among non-verbal signifying sets must be
included music, painting, sculpture, architecture and theatre.

The conceptual triad set out to demarcate spatial relations in perceptual, conceptual
and lived/experiential terms can be understood if we consider the case of the 'body' in the
same way. After all, the textuality of the body is the very same as the textuality of space and
the similarity is all the more remarkable, for, the relationship of a social 'subject' to space
also implies his/her relationship with his/her own body. Social practice presupposes the use
of body and in order to act, react, make sense of and feel space one needs to engage the
various organs and sensory perceptions of the body. This is the realm of the perception or
understanding of the body, in psychological terms. Representations of the body are derived
from accumulated scientific knowledge disseminated with an admixture of ideology. This pertains to the knowledge of anatomy, physiology, medicine and pathology. Body’s lived experience is where culture intervenes and the way the body enacts may be completely different from the way it is thought and perceived. However, the lived, conceived and perceived realms are interconnected and culture and ideology shape all of the three.

The representation of space which regulated any understanding of space since the Renaissance promoted a logic of visualization and the gaze which was deeply entrenched in a knowledge constructed by institutional and ideological practices. It should be noted, however, that fresh space is produced only out of the already existing one and not out of vacuum. Going by Marxist theory, any production process in a given period in history, engages specific forces of production and relations of production. In the case of production of space, the forces of production are knowledge, technology, labour and nature, i.e. space itself, which already exists. This, of course, is perpetually in a state of flux and as Lefebvre says: “such representations are [thus] objective, though subject to revision.”\(^{74}\)

Representations of space, even though they belong to a conceptual realm of formulation, shape and frame social and political practice, and determine subject positions, subordinating relationship of a subject to the world under an overarching logic. Ideology and knowledge are barely distinguishable any more under this broad notion of representation. Producers of space have always acted through representations while its users/consumers passively experience what is imposed on them. Talking of the relations of production, the questions which need to be asked are, from what are such representations derived and whose interests do they serve once they become operational. Above all, if the inhabitants of that space possess a ‘representational space’ how does this react to the superficial conception of space. In the following chapters, I shall discuss these matters with respect to the colonial production of space within the referential frame of binaries of the metropolis and the colony.

**Harvey: space of the Enlightenment project**

Like Lefebvre, David Harvey, in his numerous works on space, have repeatedly suggested that within each knowable world in history, spatial organization reflects an overlapping of economic, political, and legal obligations and rights. He gives a detailed historico-geographical analysis of such developments in his *The Condition of Postmodernity* (1989). In particular, he is concerned with how capitalism entails different spatial fixes pertaining to different historical periods. As per his exposition, within each

\(^{74}\) Ibid. 41.
capitalist epoch, space is organized in such a way which facilitates the growth of production, the reproduction of labour-power and the maximisation of profit.

More importantly, space is also the source of social power. The same issues are also, if covertly, reflected in the representations of space. The radical reconstruction of view of space which shaped modern representations of space in the western world, came about in the Renaissance. Where for the medieval society perceived external space as a mysterious cosmology which were only grappled with myth and imagination, the European voyages of discovery in the Renaissance produced knowledge about an external world that was potentially knowable and probably finite. Geographical knowledge which was usually conveyed through representations, became a valued commodity in an increasingly profit conscious economy. This was an age of transitions involved with the transformation of the pre existing feudal order into a capitalist one and was accompanied with all the disruptive effects of the changing economy, the most important of these being the monetisation of land. The accumulation of wealth and power got linked to knowledge and individual mastery over space as private property.

Side by side, the mode of representation of space took a drastic turn: the medieval artist rendered what he or she experienced and exactly as it was seen and perceived by him or her, “representing what it felt like to walk about, experiencing structures tactilely, from many different sides”. With the Renaissance artist there came about an obsession with a singular overall vantage which determined representations of space since then. According to Harvey, it was the discovery of perspective which radically changed the manner of visual representation in the years to come. Perspectivism conceived the world or for that matter, any scene from the standpoint of the “seeing eye” of an individual. This brought about a revolution in optics adding emphasis and validity to individual viewpoint as against “superimposed truths of mythology or religion. It also provided the tool to order nature in observing and viewing them. Perspectivism had reverberations in all aspects of social life and especially in spatial practices and architecture. It led to a rational reordering of nature and particularly space, which is integral to nature. More importantly, Renaissance celebrated liberation of 'Man' as a free and active agent, endowed with conscience and will and therefore the representational practices of the time celebrated human rationality. The Renaissance revolution in concepts of space laid the foundations in many respects for the Enlightenment project and modernism. It heralded a

---

75 See Chapter 2.
new method to conquer and control nature through reordering chaotic landscapes into images and texts. Science was the other tool with which this was achieved. Enlightenment thinkers embraced science to command all walks of life and the world in its totality, by institutionalizing rational systems. Maps were one of such technologies of control. They were stripped off their medieval sensuous qualities to make them strictly functional. Alongside there came about a rift between what was considered art and what science. In fact, aesthetics itself adopted and celebrated some scientific and rational qualities. They were complemented by scientific observations which fed into the structures of representation.

The conquest and control of space, required it to be first imagined as usable and convertibe through human action. The new order of spatial representations which ensued in the age of Enlightenment did just that. Euclid's concept of objective space was adopted as the language of discourse, and provided the basis for arranging physical landscapes. Once space was rearranged by ascribing them stable and knowable specifications and positions they could be fitted to hierarchies and serve class interests or state mechanisms.

**John Urry and consumption of space**

A number of points about the intertwining of memory, identity and place have recently come to the theoretical foreground. It is now generally understood that memories are irreducibly social. Memory of a place are shared and are constructed over years and mostly through institutional commemoration which silence alternative memories of the past and of the place. John Urry in his work, *Consuming Places*, traces the articulation and discourse of spatial memory usually "organised around artifacts such as buildings, rooms, machines, walls, furniture and so on". Therefore, Urry argues that tourism presupposes selective memory which has consolidated over the ages. Places are not just seen but are grappled with diverse senses which in turn are modified over time. Nature itself is perceived, associated and appreciated as it is culturally constructed. Travel and tourism, similarly plays up to this construction and appropriates the dominant perspective towards the space. Images of places are fashioned according to the selective memories surrounding the place. This, Urry significantly calls 'place myths'. He argues that in contemporary times,
it is as much used routinely in the symbolic location of goods and services, as to market the place itself through the goods and services available there. Thus:

there are complex interdependencies between consuming goods, services and places, and what links them together are the patterns of social life organised in and through particular places. Such patterns are significantly commodified but there is generally a complex mixing of both commodification and collective enthusiasm.\textsuperscript{77}

This reflects a general trend in which the sociology of the place increasingly incorporates the analysis of various cultural outputs and images into its examination of place and place myths. Studying space is not limited to a study of the material land alone, but involves a whole array of cultural products such as writing, architectural designs, paintings, guide books, literary texts, films, post cards advertisements, music, travel patterns, photographs and so on. The consumption of such products is very much part and parcel of the processes of production and consumption of space. Urry's theory shall be specially helpful in understanding the commodification and consumption of India in the colonial metropolis.

Once the conceptual possibility is opened that a spatial entity is not necessarily an unalterable condition, the question concerning this structure of space appears to be debatable. From here, I shall now go on to understand the metric foundations and cultural apparatus which went to structure the metropolis and the colony, in both abstract and concrete terms.

\textsuperscript{77} Ibid, 29.
LANDSCAPES OF DESIRE
In this section, it is my endeavour to invite a debate on the constructed nature of spaces through a discussion on landscape paintings. What is seen as a naturalized representation of landscape, in fact, involves a great deal of artifice arising out of specific socio-historical circumstances. As a specifically European genre, it was both a product and a contributor to the process of articulation of space. When the fervor reached Britain, it gathered the artistic convention and socio-political currents to construct not only the gaze, the view but also impacted on the appearance of the space. A landscape painting is therefore a whole ensemble of economic and political relations translated into and invested onto a representation which designed views and viewership in defining ways through the eighteenth century to the nineteenth century. Landscape paintings, therefore, can be seen as a figurative device to visually control space.

The construction of space in such terms is not to be seen outside the pale of relations of power. It is my project to see the cultural production of landscapes in both Great Britain and India in relation to each other and as products of the imperial eye of power. In fact, the consanguineous nature of the construction of the geographical identities of both the home nation and the colony is the recurring theme in the forthcoming sections too. In the second chapter in this section, I shall look at the extension of this technology of vision to south Asia subjecting it to a disciplining picturesque gaze. The vantage point and the perspective become crucial features in constructing a seemingly objective view which also tie the practice to other ocular centric methods of representations such as that of travel writing and cartography discussed in later sections. The distant, disinterested and all encompassing view that transpired in landscape paintings as an integral aspect of the aesthetics of the genre, in effect, also framed and formatted the overarching perspective of the narratives of travel and map-making. The landscapes through a picturesque gaze construed the materiality and appearance of the space as also transposed desires onto pictures. Scientific discourses get
welded into those of aesthetics as also, ethnographic methods and practices intertwine with purely aesthetic ones.

The landscape paintings when staged as theatre scenery and other kinds of ornamentation contributed to the congealing of an identifiable image of the space. In other words, landscape paintings in unison with other spatial representations can be seen as a practice which constructed a 'place' within a collective consciousness. The hugely popular panorama shows in the imperial metropolis likewise combined elements of travel and exoticism to embrace faraway places and bring them within the visual radius of the metropolis. With India featuring regularly in the cultural sphere of the imperial metropolis, what came to be understood and recognized as India was, in effect, an imaginary arrangement of this very imperial consciousness.