

- 12 objective basis (the objective form of their foundation) has been “overcome”, but its ideal-typical form has not been “overcome”, at all. We believe that all metropolitan “sciences” start from and embody the aporia of this idea: the idea, that is, of a possible spatial definition of a Whole, of a Relation of relations. In this sense (though here we cannot get into the specific philosophical consequences of the subject), such sciences can be considered dialectical, in the sense that the Whole is implied in the interrelationship of the parts and defines the insuperable metra of the parts themselves. Consequently, even though in the metropolis there can be specific autonomous points of view and methods which are continually and mutually being formed, their time dynamics can actually be “spatialized”, since these dynamics are all based on that (implied) Whole of relations.

## 2. The Metropolitan “as if”

Radically posing the idea of a system of relations as a problem reopens the discussion on the metropolis. Perhaps we are living through the transition from an idea of the metropolis in terms of “restricted relativity” to one in terms of “general relativity”. As for the first idea, so as to “come back” through the specificity of individual methods to the implied idea of a whole of connections, there cannot be any real equivalence between all the “referent bodies”. The metropolitan dimension is analyzed within a finite number of functions, which have “Galilean” characteristics and act as Galilean bodies (with uniform, straight, non-rotatory motion) towards all other events which constantly “interrupt” them. Even in the case of restricted relativity, its four-dimensional continuum can still perfectly fit the properties of Euclidean three-dimensional space. Here, too, time is no longer dealt with as an independent Absolute; here, too, space is “overwhelmed” in the four-dimensional continuum, but the system is still calculated based on solid bodies and “fixed” points of view and functions. They inform every element of the ensemble, which can then be enclosed within a Whole.

In general, we can say: those languages that assume/imply the idea of a Whole of relations (and of the metropolis as the possible realization of such a Whole) act as privileged “referent

bodies”. It is to their clocks that the times of all the elements of the ensemble are to be synchronized. The consequences of all this are of fundamental importance: the influence of “gravitational fields” on such bodies/languages is not to be taken into consideration a priori. Though moving in time, they do not undergo any variation. Without hesitation, we can therefore use them as reference points. We act as if the rhythm of their clocks did not change from field to field. The reference language works as a reference point anywhere. This is its hybris —and its pretence: too much language.

## 3. The “European City”

In his *Evolution of Physics*, published with Infeld in 1938, Einstein uses an “urban” metaphor to

explain the difference between restricted relativity and general relativity. He terms the “American city” as that vision of the continuum derived from a persistent privileged reference system, set to run with its own Clock. Euclidean geometry can easily be applied in this system, and, using such geometry, the system continues to be describable. But the “simplex sigillum veri” represented by the ideal American city contrasts with the “European city”. Here, the analytical apparatus, based on the “mysterious system of inertial coordinates” (on the idea of “non-deformable” bodies/languages), ceases to work (or “to simplify”, reducing what is complex). The “European city” is built starting from any arbitrarily chosen reference point. In it, the hypothesis of smooth-running clocks and standardized rulers does not work any more.

## Concurso de la Ópera: Organización y planning generales

- Se pretende crear una organización que permita un rendimiento máximo con un trabajo mínimo de cada uno de los componentes del grupo.
- Cada arquitecto será responsable de una única zona, en la que profundizará exhaustivamente.
- La visión parcial que este sistema puede producir se evita mediante la formación de grupos dobles y triples. La combinación de nombres está ideada de manera que al terminar la 3.ª Fase, todos los miembros hayan tenido acceso a todos los problemas que plantea el edificio.
- Se continuará manteniendo la reunión plenaria semanal (jueves, 4 p.m.). No obstante, los grupos dobles y triples deberán comenzar a reunirse independientemente casi a diario.
- La perfección del resultado depende de la disciplina de trabajo del Grupo. Un fallo de cualquiera de sus miembros perjudica directa y gravemente a los compañeros que le han confiado el estudio de una zona vital del edificio.

### Organización de grupos:

#### 1.ª Fase: 1-15 enero/64

##### GRUPOS SIMPLES

Accesos	Aranguren
Público	Sota
Sala	Paredes
Escena	Molezún
Explotación	Corrales

#### 2.ª Fase: 15-31 enero/64

##### GRUPOS DOBLES

Accesos-Público	Aranguren-Sota
Público-Sala	Sota-Paredes
Sala-Escena	Paredes-Molezún
Escena-Explotación	Molezún-Corrales
Explotación-Accesos	Corrales-Aranguren

#### 3.ª Fase: 1-15 febrero/64

##### GRUPOS TRIPLES

Acústica	Paredes con Molezún y Sota
Estructuras	Molezún con Corrales y Paredes
Circulaciones	Aranguren con Sota y Corrales
Exteriores	Corrales con Molezún y Aranguren
Interiores	Sota con Paredes y Aranguren

#### 4.ª Fase: 15-29 febrero/64

Organización del desarrollo

#### 5.ª Fase: 1-31 marzo/64

Desarrollo del anteproyecto

Documento redactado por los arquitectos que en él figuran, como esquema organizativo de su plan de trabajo para la realización del concurso para el proyecto de la Ópera de Madrid.



## The Contest of the Opera: General Organization and Planning

- The aim is to create an organization which will permit a maximum performance with a minimum of work for each one of the components of the group.
- Each architect will be responsible for a single area, which he will study in great detail.
- The partial view which this system might produce will be avoided by means of forming double and triple groups. The combination of names is arranged in such a way that at the conclusion of the Third Phase, all of the members have had access to all of the problems which the building presents.
- The weekly plenary meeting will continue to be held (Thursday, 4 p.m.). However, the double and triple groups should begin to meet independently almost every day.
- The perfection of the results depends upon the disciplined work of the Group. And failure on the part of any of its members will directly and seriously affect his colleagues who have entrusted him with the study of a vital area of the building.

### Organization of Groups:

#### First Phase: 1-15 January/64

##### SIMPLE GROUPS

Entrances:	Aranguren
Audience:	Sota
Hall:	Paredes
Stage:	Molezún
Exploitation:	Corrales

#### Second Phase: 15-31 January/64

##### DOUBLE GROUPS

Entrances-Audience:	Aranguren-Sota
Audience-Hall:	Sota-Paredes
Hall-Stage:	Paredes-Molezún
Stage-Exploitation:	Molezún-Corrales
Exploitation-Entrances:	Corrales-Aranguren

#### Third Phase: 1-15 February/64

##### TRIPLE GROUPS

Acoustics:	Paredes with Molezún and Sota
Structures:	Molezún with Corrales and Paredes
Passageways:	Aranguren with Sota and Corrales
Exteriors:	Corrales with Molezún and Aranguren
Interiors:	Sota with Paredes and Aranguren

#### Fourth Phase: 15-29 February/64

##### Organization of the Development

#### Fifth Phase: 1-31 March/64

##### Development of the Preliminary Plan

*A document prepared by the architects who appear in it. It is the organizational plan for the work to be carried out in the building for the project of the Madrid Opera. Translated by Muriel Feiner.*

The "European city" is, for Einstein, the image of that space-time continuum where any reference systems can be used, where the distribution of matter changes continually and unpredictably, where the Clock and Ruler do not rule, where bodies (and languages) warp while moving; it is where, consequently, motion actively determines the shape of objects, and time is not a river-bed in which "things" (relations, connections, languages, forms) flow, but is these very "things" themselves, and where, therefore, any "thing" can act as a "body of reference". The geometry of such a "European city" can no longer be Euclidean. General relativity is not represented by the ideal American city which will never, therefore, "cover our entire Earth". No Language, no Time (the inseparable Logos and Chronos) can cover the

Earth entirely. In gravitational fields, which depend on the distribution of matter, there are no solid bodies having Euclidean properties, nor clocks nor rulers which do not depend on the field. There are a multitude of times, ticked out on irregular clocks associated with arbitrarily chosen non-solid bodies of reference. Einstein calls such "bodies" mollusks, which change shape while moving due to the action of gravitational fields.

The metropolis (can we still call it that?) of general relativity consists of the interacting movements of elastic mollusk "bodies". (Exercise: let us imagine a space continuum in which mollusks having rhythms of their own (and not the unvaryingly equal times of mere succession) vary their shape according to the gravitational field they are in, which they happen to be in —and let us imagine,

also, a whole which can be made starting from any one of these mollusks, a whole, that is, which can be made independently from the choice of the mollusk).

### 4. A City of Angels?

However more infinitely complex the imaginative-mathematical mechanism of the "European city" may be than the American "grid", it has nothing esoteric or profound about it. If it seems so, it is only because of the lack of familiarity that the so-called "humanities (which represent the types of language typical of urban development) have of the above-mentioned concepts. The "mollusk" city can be just as clearly described as that in "general relativity"; but, its spatial configuration is no longer any given shape. In a way, the city has undone itself through pure process. Its dimension is only ideal since it appears not to be the place in which certain movements/events occur, but the unpredictable whole of these events. Here, space has no autonomous properties. Consequently, metropolitan space can be described without taking into consideration the "adventures" of our mollusks'. However, the universe that, at any time, the mollusks' movements and transformations represent is always finite, though also unlimited, in the sense that we can never reach a point of view outside of it so as to define its boundaries. Such a relationship between the finite and the unlimited, which dominates any truly relative (not relativistic) vision, is the focus of the chapter dedicated to Mondrian (and Brouwer) of my work *Icone della legge*. I consider it useful to bring it up again in this context.

Just as a "painting" by Mondrian is a perfectly finite construction and, at the same time, lacks any "frame" at all which could make it a model for constructions to come, so the space represented by the interaction (at worst, instantaneous) of the various mollusks is all the space that can be represented now and yet, at the same time, it is not the only space possible. No spatial Nomos presides over mollusk movements; but rather, it is the order of such movements (and their rhythms) which shapes space. Every world is perfectly finite —but there are unlimited worlds.

Such a purely ideal conception of "metropolitan" space has made the discussion about planetary