DIGITAL SYSTEMATIZATION OF THE RECONSTRUCTION AND ASSESSMENT METHODOLOGY OF THE ARCHITECTURAL DESIGN PROCESS. RESEARCH NETWORK-INSTITUTIONAL REPOSITORY

Sistematización Digital de la Metodología de Reconstrucción y Evaluación del Proceso de Diseño Arquitectónico. Red de Investigación-Repositorio Institucional

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ABSTRACT

The Reconstruction and Assessment Methodology of the Architectural Design Process (RAM-ADP) extrapolates that used in the doctoral thesis on the Jesús Maestro de Valencia Parish Group to the study of other architectural projects. The RAM-ADP can evolve by being systematically implemented by an open access hybrid digital entity as a research network and institutional repository (RN-IR), which would allow numerous symbiotic relationships between documentation centres, researchers and universities, whose consequence it would be the constitution of a body of knowledge of the design process, more grounded, supplementary to the existing one, and compatible with any style of architectural critical research.

RESUMEN

La Metodología de Reconstrucción y Evaluación del Proceso de Diseño Arquitectónico (MRE-PDA) extrapola la utilizada en la tesis doctoral sobre el Grupo Parroquia Jesús Maestro de Valencia al estudio de otros proyectos arquitectónicos. La MRE-PDA puede evolucionar implantándose sistemáticamente a través de un ente digital híbrido de acceso abierto como red de investigación y repositorio institucional (RIV-RIT), que permitiría numerosas relaciones simbióticas entre los centros de documentación, los investigadores y las universidades, cuya consecuencia sería la constitución de un cuerpo de conocimiento del proceso de diseño, más fundamentado, suplementario al existente, y compatible con cualquier estilo de investigación crítica arquitectónica.

1. Introduction

The doctoral thesis on the Jesús Maestro de Valencia Parish Group (1961-67) (Mondéjar, 2016), develops a methodology that allows to acquire a deep knowledge of the design process and an architectural criticism referenced by documents1. Likewise, the application of this methodology provides evidence that permits assessing the quality of this research and its analogues 2. Extensively, the replicable nature of this methodology would allow considering its potential evolution towards a systematic digital implementation.

Essentially, this methodology proposes a detailed cataloging of the original documentation as a control instrument and as a source of evidence for the grouping of documentary units into types of architectural elements and design versions, according to the validation criteria of 'internal coherence', 'external coherence', and 'contextual correspondence'. The graphic synthesis holistically completes this documentary analysis. Thus, a rigorous and in-depth knowledge of the design process is possible, and derived from it, an optimized documentary architectural criticism under any style of inquiry.

On the other hand, it is well known that architectural criticism usually occurs after an intuitive selection of the centres of interest of the design and construction process. However, the aforementioned methodology and its digital systematization would make it possible to argue this selection in detail and to advance the research in a network environment of global reach, which would additionally be susceptible to receiving external assessments.

2. Evolutionary Potential of the Methodology of Reconstruction and Assessment of the Architectural Design Process (MRA-ADP): Research Network- Institutional Repository (RN-IR)

This methodology, whose nature is specifically applied to the specific case of the Valencian parish group, houses the systematic essence of its generic extrapolation on research focused on the architectural design process, and thus, a traceable and verifiable character that is potentially evaluable by external agents. Given the importance of its condition, from now on the following denomination will be used for the methodology considered: 'Methodology for Reconstruction and Assessment of the Architectural Design Process' (RAM-ADP) or also, 'Metodología de Reconstrucción y Evaluación del Proceso de Diseño Arquitectónico' (MRE-PDA).

The replicable feature of the RAM-ADP and its proposed categories makes it possible to estimate its potential evolution towards a systematic implementation through a publicly accessible hybrid digital entity as a research network and institutional repository, hereinafter referred to as 'Research Network- Institutional Repository' (RN-IR) or also 'Red de Investigación- Repositorio Institucional' (RIV-RIT), which would allow the establishment of numerous symbiotic relationships between documentation centres, researchers and universities, the consequence of which would be the constitution of a body of knowledge of the design process, of greater foundation, supplementary to the existing one, and compatible with any style of investigation of architectural criticism.

3. Previous considerations

Basically, the RN-IR would enable the researcher to apply the RAM-ADP to each specific architectural project, by means of the introduction of digitized documents and the metadata derived from them, as well as the subsequent determination of the design versions. Architectural information documentary centres (archives, libraries...) could verify the relationship between the original document, the digitized document, and the metadata provided by the researcher in relation to it. Likewise, the teams of researchers attached or not to the universities would validate the results obtained from the study of the design process. Finally, any user would have the ability to consult all the information records generated by the RAM-ADP.

Based on the above, the proposal for the application of the RAM-ADP by means of the RN-IR implies the constitution of an open, traceable and perfectible collaborative research network, and at the same time, the determination of an institutional repository of the research process and its results. All this integrates and

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1 The aforementioned methodology is described and analyzed in detail at the 'I Congreso Iberoamericano Red Fundamentos: Experiencias y métodos de investigación' [(I Ibero-American Congress Red Fundamentos: Experiences and research methods]; (Mondéjar, 2017). Its application has meant detailed knowledge of the design process of the Valencian parish group, whose official authors were Corrales and Molezún, but that it was really projected by Molezún. On the other hand, it has allowed the compared analysis of the projects of parish groups individually performed by the architects in the sixties and the discovery of an ideal shared by both, of the unprecedented generation of sacred space, as one of the vectors of greater importance of its religious architecture, which is exhibited at the 'II Congreso Iberoamericano Red Fundamentos: Metodologías y Experiencias de Investigación' [(II Ibero-American Congress Fundamentals Network: Research Methodologies and Experiences)]; (Mondéjar, 2018).

2 The evaluation of research on the architectural design process that uses the mentioned earlier methodology is summarized in the International University Congress on Content, Research, Innovation and Teaching (CUICIID); (Mondéjar, 2020). Its full development takes place in the chapter „Architecture: Evolution and evaluation of the creative process" of the book „Investigations and future academic projects", from the „Comunica" collection, from the Tirant Lo Blanch publishing house. ISBN: 978-84-1853-467-6. Legal Deposit: V-2706-2020; (Mondéjar, 2020).

transcends the principles of Open Access[3] and Open Science[4], that are applied to publicly funded research, is in line with the main vectors of evolution of institutional repositories proposed by the Confederation of Open Access Repositories (COAR) (COAR, 2018), and also with the FAIR (Findable, Accessible, Interoperable and Reusable) principles, which are mandatory for beneficiaries of projects within the European programs Horizon 2020 and Horizon Europe (HE)[5]. Additionally, the implementation of the RAM-ADP by means of the RN-IR would be susceptible to adapting and developing the new standards established by the Open Access Infrastructure for Research in Europe (OpenAIRE) (OpenAIRE, 2018).

Specifically, the RAM-ADP systematized by means of the RIV-RIT would consider all available information, current and future, relevant to the investigation of a specific architectural project, since said methodology has the ability to adapt to the research evolution and the appearance of new documentary units. In the same way, it is understood that the strictly fundamental agents for the systematic implementation of the RAM-ADP would be the institution in charge of the RN-IR, the architectural information documentary centres, researchers and universities, although it would not exclude the intervention of other relevant for the process[6].

4. Systematic application of the RAM-ADP: owner entity and open access RN-IR

The systematic application of the RAM-ADP would require the existence of an infrastructure formed by at least two elements: a proprietary entity[7] and a digital hybrid entity as an open access RN-IR. The RN-IR would be the digital structure sited on the Internet in charge of allowing data entry operations, research metadata, review, validation, and assessment, as well as of containing and giving access to the digitized documentary units of a specific project and its built work, the detailed cataloging of each of these units, the organization of said units into types of architectural elements - view in dihedral system, constructive element, perspective view,...-, the arrangement of the aforementioned units in design versions, the characteristic parameters and validation criteria of the design versions, and the graphic syntheses made. Given that the internal information available on a specific project and its built work, as well as the external information closely linked to the design process, are usually deposited in different documentary centres of a diverse nature, the RN-IR of the RAM-ADP would allow their simultaneous and joint visualization. Extensively, the existence of information corresponding to other projects and their completed works would make it possible to compare them, either as a whole, or by filtering specific parameters that they had in common[8].

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3 Azorin et al. (2021) state:

'El acceso abierto (Open Access) consiste en proveer de acceso on-line a toda la información científica disponible (artículos, monografías, datos de investigación…) de forma gratuita para el lector y bajo licencia para que pueda ser usada y explotada por los investigadores, las empresas y los ciudadanos. La idea que subyace bajo el acceso abierto es que los resultados y los datos utilizados en investigaciones financiadas públicamente deberían estar disponibles para todos y tener licencias que permitan su reutilización'. ['Open Access consists of providing online access to all available scientific information (articles, monographs, research data…) free of charge for the reader and under license so that it can be used and exploited by the public. researchers, businesses and citizens. The idea behind open access is that results and data used in publicly funded research should be available to everyone and licensed to allow reuse']. (p. 4).

The definition of open access is included in the Budapest Open Access Initiative (BOAI) (Open Society Institute (OSI), 2001), and in the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (Max Planck Gesellschaf, 2003).

4 'Nueva forma de aproximación colaborativa, transparente y accesible a la investigación, que implica un cambio estructural en la manera de concebir la investigación y la difusión de sus resultados. Se caracteriza por la apertura, no solo de las publicaciones, sino también de los preprints, los datos de investigación, los desarrollos de código, las metodologías, los procesos, así como por la implicación de la ciudadanía en un entorno de investigación e innovación responsables'. ['A new form of collaborative, transparent and accessible approach to research, which implies a structural change in the way of conceiving research and the dissemination of its results. It is characterized by the openness, not only of publications, but also of preprints, research data, code developments, methodologies, processes, as well as the involvement of citizens in an environment of responsible research and innovation'] (Ib., p. 33).

5 'El Programa Horizonte 2020, lanzado en 2014, incluyó entre las obligaciones de sus beneficiarios la de depositar en abierto las publicaciones científicas y los datos de investigación subyacentes a estas, así como la elaboración de planes de gestión de datos (DMP, por sus siglas en inglés) para todos los datos de investigación generados en el marco de los proyectos financiados'. ['The Horizon 2020 Program, launched in 2014, included among the obligations of its beneficiaries the open deposit of scientific publications and the research data underlying them, as well as the preparation of data management plans (DMP) for all research data generated within the framework of the funded projects']. (Ib., p. 4). According to Azorin et al. (2021), as of 2016 the European Commission began working with the concept of Open Science, whose implications are reflected in the Horizon Europe (HE) funding program for scientific and technological activity, in force for a period of 7 years from on January 1, 2021. (p.4).

6 Such as: author/s of the project, owner/s and/or manager/s of the property of the built work, various documentary centres with information external to the project, institutions, organizations and/or public-private foundations for patronage and/or dissemination of architectural cultural heritage.

7 The owner entity, foreseeably public in nature and management delegated to private agents to enable effective and institutionalized symbiotic relationships between researchers, documentation centres and universities, would be responsible for establishing and maintaining the operation and content of the RN-IR. If the application of the RAM-ADP exceeds the national scope, a multiple ownership status of the same nature as the one already described could be determined.

8 Among other possibilities and regarding an architect or several architects among themselves, it would be feasible to compare the design processes of various projects-works, those of a type of building-residential, tertiary sector, educational...-, those of specific design stages - previous ideas and sketches, intermediate states, execution details...-, those of a selection of projects-works, those of specific views-plan, elevation, section, perspective...-, those of specific types of architectural elements -structure, enclosure, roof, singular constructive element...-, etc.

5. RN-IR: research network-database editable under permission, authorizable, perfectible and traceable

The large amount and diversity of data that could predictably form part of the RN-IR, and the suitability of managing them in an efficient, selective, and comparative manner, would indicate the advisability of introducing and processing digital information by means of a computer database.

The types and levels of permission to act could be at least the following ones:

a. Contents reading: registered user with a reader profile, under permission of the RN-IR owner entity (or simply named "owner entity").

b. Contents editing: registered user with an accredited both researcher or research group profile, with the permission of the owner entity.

c. Contents validation: registered user with a profile of an accredited institution, documentary centre, university, researcher or research group, with the permission of the owner entity.

d. Contents management: registered user with owner entity profile.

e. Contents assessment: registered user with an external consultant profile from an accredited institution, documentary centre, university, researcher or research group, with the permission of the owner entity.

f. Contents management assessment: registered user with an external consultant profile from an accredited institution, documentary centre, university, researcher or research group, with the permission of the owner entity.

The types of contents status and contents management incorporated into the RN-IR could initially display the following scheme:

1. Inserted content: by means of an accredited researcher or research group, with the permission of the owner entity.
2. Inserted and validated content: by means of an accredited institution, documentary centre, university, researcher or research group, with the permission of the owner entity.
3. Inserted, validated, and published content (accessible to the reader profile): by means of the owner entity.
4. Inserted, validated, published and reviewed content: by means of an institution, documentary centre, university, researcher or accredited research group, with the permission of the owner entity.
5. Reviewed and published content (accessible to the reader profile): by means of the owner entity.
6. Assessed content: by means of an external consultant from an accredited institution, documentary centre, university, researcher or research group, with the permission of the owner entity.
7. Assessed and published content (accessible to the reader profile): by means of the owner entity.
8. Content management assessed: by means of an external consultant from an accredited institution, documentary centre, university, researcher or research group, with the permission of the owner entity.
9. Content management assessed and published (accessible to the reader profile): by means of the owner entity.

The possible symbiotic interaction and/or mutual recognition between researchers, documentary centres, universities, institutions and the entity that owns the RN-IR, would reveal the need to establish a specific dating and to attribute specific authorship to the actions and to the corresponding introduction of data in each of the constituent parameters of each application phases of the RAM-ADP by means of the RN-IR, such as the following ones: digitalization of documentation, detailed cataloging of digitized documentation, architectural type organization as well as of the ordering of design versions with their characteristic parameters and validation criteria, and finally graphic synthesis. The discovery of new documentary units, the uncertain development of the research process, and the desirable subsequent intervention of the researcher as the initial author of an action and the corresponding metadata introduction in the IN-IR, or that of other researchers who review, update, or improve said initial action as well as the addition of metadata, would show the advisability of adding actions and incorporations of subsequent data and metadata, likewise identified by a specific authoring and dating, which would make it possible to know the history of actions and the corresponding introductions of data and metadata as well as that of their authors, for a specific parameter of the database[9]. This ability would grant the RN-IR the condition of being perfectible in time. Derived from the above, the information contained in the RN-IR would be traceable by means of the histories in which the origin of the digitized documentary units and both authorships and specific dates of the actions executed in the RN-IR are defined, what would evidence detailed knowledge of the research process of a particular architectural design process. Additionally, this attribute would allow the RN-IR to undergo external quality controls that would may lead to its institutional accreditation.

6. Phase I: Digitization and Designation

The relevant information for the application of the RAM-ADP contained in various documentary units, managed mainly by the author(s) of the project, the owners of the built work, and the documentary centres and personal files

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9 In the same way, it would be equally desirable that the actions of the rest of the agents involved in the systematic application of the RAM-ADP by means of the RN-IR to be subjected to identical criteria.

of the authors that contain funds of the architectural project studied –textual, graphic, audiovisual information, volumetric, material and constructive representation...-, frequently has an uneven degree of digitization. The limited funding of the main agents usually implies a lack of technical and human resources to complete this digital processing of the documentation.

Regarding this, the researcher or research group (or simply referred to here as "investigating agent") have the opportunity to perform this work and to introduce in the RN-IR the digital files of the documentary units, named according to the code assigned to these units in the documentary center of origin. Otherwise, the designation would be established in the terms indicated in the RAM-ADP that was applied to the Valencian parish group. In any case, the name would refer to the place or documentary centre that lodges the original documentary unit. All of this would make it possible for the different users to access the documentary units digitized in the RN-IR and that to be able to consult the original documentary units in the documentary centres that house them.

The digitization introduced in the RN-IR would provide instant dissemination of the documentary units of the aforementioned agents, who would only use their own resources when verifying the correspondence between the digitized documentation with the original documentary units and to validate an acceptable level of quality of the digital product. Based on the above, the research agent would accredit the external recognition of the adequacy and quality of this work before the assessment executed by the university or other organizations and institutions. Similarly, aforementioned organizations and institutions would be aware of the adequacy and quality of the digital starting data for the research, without excluding the academic or other evaluation criteria themselves.

7. Phase II: Detailed cataloging

The detailed cataloging that the RAM-ADP applies to the digitized documentary units by means of the corresponding charts made up of twenty-four fields, that analyzes each documentary unit in detail[10], allows the ordinary functions of documentary centres to be performed[11]. Furthermore, it provides a set of detailed and specific additional information that seeks to control the documentation examined, the detection of evidence that subsequently supports the arrangement of the documentary units cataloged into types of architectural elements and design versions, and finally to show the integration of aforementioned documentary units within the set of general documentation, the design version and the type of architectural element to which belongs to. Based on the above, it is possible to develop a detailed documentary units analysis, whose objective would be to achieve a well-founded approach to the design process of a specific architectural project and its built work.

One more time, the investigating agent, as specialized personnel in the matter in question, would have the occasion to analyze and enter the fields of the RAM-ADP documentary units charts into the RI-IN. Likewise, documentary centres and universities or other organizations and institutions could perform the validation of the cataloging in two differentiated temporal phases corresponding to two equally diverse levels of information: firstly, in the detailed cataloging phase, the fields whose information is essentially descriptive and associated with the detection of evidence could be endorsed by the staff of the documentation centres; Subsequently, during the design process ordering phase defining architectural types and design versions, the fields whose information is fundamentally interpretive could be validated by the tutoring, management or external research reviewers of universities or other organizations and institutions. Therefore, the completion of the detailed cataloging phase would culminate when the final ordering of the design process.

Thus, documentary centres could offer a specialized catalog of the funds analyzed by means of the RAM-ADP without interfering with their own catalogs and computer systems, since consulting a specific documentary unit would imply the possibility of linking to its documentary unit chart of the RI-IN[12]. On the other hand, researchers could justify to the university or other organizations and institutions a detailed descriptively validated cataloging, which would show documentary control in accordance with the level of architectural knowledge pursued. On the other hand, researchers could justify to the university or other organizations and institutions a concrete detailed and validated cataloging, which would show documentary control in accordance with the level of architectural knowledge sought. Subsequently, the interpretive validation that the university or other organizations and institutions would perform again would complete the detailed cataloging already linked to the design process, which a researcher would display as an accredited intellectual production[13].

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10 For a thorough reading of the detailed cataloging charts composition, see the epigraph 'Catalogación pormenorizada: fichas documentales' ['Detailed cataloging: documentary units charts']: (Mondéjar, 2017).
11 The cataloging of both documentary centers and authors' personal archives mainly seek to order the documentation, according to current regulations and their own criteria, to allow efficient access and recovery of the documentary units. Regarding this, the progressive digitization of catalogs is favoring the optimization of these operations.
12 Coordination between a catalog of a documentary center and that of the RN-IR would also be verifiable in the aforementioned documentary unit chart, where a field is determined for the designation of the documentary centre of origin ('DCD': 'Denominación del centro documental') [(Documentation center denomination)] and another for the self-done designation of detailed cataloging ('UD': 'Unidad documental') [(Documentary unit)].
13 Nevertheless, the discovery of new documentary units or the revision of the existing ones would not prevent from other researchers' intervention, since each field of the documentary unit chart would admit the subsequent addition of contents using a specific authorship and dating. Therefore, for each author-researcher, there would be a history of their contributions to the RN-IR, which would allow different degrees of authorship to be assigned to a specific detailed cataloging.

The university or other organizations and institutions could use the detailed cataloging of the RAM-ADP as a methodological and assessment tool for research production in the field of Architectural Projects, focused on the study of the design process and its construction, without impeding the subsequent application of any critical style of analysis. The descriptive validation of the documentary centres and the interpretive validation of the university or other organizations and institutions, refers to specific parameters of the documentary unit chart, which would be likely to become indicators associated with likewise specific levels of achievement, and therefore, identifiable with a more grounded architectural knowledge assessment system.

8. Phase III: Organization of the design process

The ordering of the design process of the RAM-ADP applied to the detailed catalogs of the RN-IR by means of the corresponding version charts, of architectural type charts, and of the consequent grouping of digitized documentary units[14], would optimize the functions commonly developed in the documentation centres[15], since they would have access to an organization configured using all the documentation available from all the documentary centres involved. Furthermore, the RAM-ADP would provide specific and justifying information for the versions and types of architectural element determination. Basically, the design version chart would reveal three sort of knowledge: general information and the relationship of grouped documentary units ('IG': 'Información general de la version de diseño') [(General information of the design version)], parametric characterization ('CP': 'Caracterización paramétrica') [(Design version parameters definition)], where a certain field of the detailed cataloging would be constituted as a characteristic parameter submitted to the validation criteria of internal coherence, external coherence and contextual correspondence, and finally, parametric assignment ('PA': 'Asignación paramétrica), where each characteristic parameter would be associated with a set of documentary units. The architectural type charts[16] would simply compile the relationship of documentary units related to each other -type of view of the dihedral or perspective system, the type of area or activity performed, or the type of constructive element, which are integrated into the architectural project - and the design versions to which they belong, showing a cross-sectional reading of the design process and verification of the external consistency validation criteria between the design versions.

Once again, the investigative agent, as a specialist in the field, would have the opportunity to analyze and enter the fields of the version and architectural type charts into the RN-IR, as well as the groups of digitized documentary units for a joint viewing.

The information production in phase III is essentially interpretive, although it uses fields of descriptive information from the detailed cataloging, since the documentary grouping criteria depend fundamentally on the parametric characterization and its validation criteria of internal coherence, external coherence and contextual correspondence, which can only be applied by a specialist in the area of knowledge of Architectural Projects. Therefore, the main validation of this phase, as well as that of the interpretive fields of the detailed cataloging, should be performed by university personnel or belonging to other organizations and institutions specialized in the aforementioned area of knowledge[17].

As considered for phase II, the documentary centres could offer a body of substantiated and traceable information on the design process of an architectural project and its built work in the RN-IR, formed in part or in its entirety by the original documentary units from the different centers considered, without interfering with their own catalogs and computer systems, since consulting a specific grouping of documentary units would imply the possibility of linking it with their location in the RN-IR in each of its phases.

The investigating agent, author of the RAM-ADP application, would own an in-depth study of the design

14 For a thorough reading of the organization of the design process of the RAM-ADP, see the epigraphs 'Integración documental: Versiones de diseño y tipo de elemento arquitectónico' ['Documentary integration: Design versions and type of architectural element'], 'Versiones de diseño: fichas y consideraciones terminológicas' ['Design versions: charts and terminological considerations'], 'Criterios de validación de una versión de diseño' ['Validation criteria for a design version'] and 'Tipo de elemento arquitectónico: análisis transversal del proceso de diseño' ['Type of architectural element: cross-sectional analysis of the design process']: (Mondéjar, 2017).

15 The conventional cataloging of the documentary collections of an architectural project generally groups the documentary units to create a coherent documentary body that broadly displays the design and construction process. Consequently, it orders the documentation according to types -textual, graphic, audiovisual information, volumetric, material and constructive representation...- and general states of design definition by means of a progressive sense, such as sketches, outlines of the preliminary project, of the basic project, of the execution project, and finally the project for the real execution of the work. In addition, each documentary centre generally performs this grouping independently of the rest of the information available in other documentary centres. Similarly to what has been stated, the state of digitization of the design process would basically depend on the state of the cataloging of the documentary centres considered and their financing.

For an extended reading of the terminology used in this phase, such as 'Modelo arquitectónico' ['Architectural model'], 'Versión o estado del diseño' ['Design version or state'], ' Parámetro característico' ['Characteristic parameter'], and 'Estrato de versión de diseño' ['Version design stratum'], see 'Versiones de diseño: fichas y consideraciones terminológicas' ['Design versions: charts and terminological considerations']: (Mondéjar, 2017).

16 Consult 'Tipo de elemento arquitectónico: análisis transversal del proceso de diseño' ['Type of architectural element: cross-sectional analysis of the design process']: (Mondéjar, 2017).

17 Nevertheless, the documentary centers could perform a secondary validation of formal coherence, verifying that the documentary units considered in the ordering of the versions and in the types of architectural element, belong to the original collections of a documentary centre and also to phases I and II of the RN-IR. At this time the final ordering of the design process would culminate.

process of an architectural project, reviewed and validated by documentary centres and universities or other organizations and institutions, which would allow them to detect, with a greater foundation, the most relevant focuses for architectural criticism from any type of inquiry, applied to the project considered or also to this and others by means of a comparative analysis[18]. As previously explained, the RAM-ADP is traceable and perfectible. In the face of subsequent organization revisions of the design process or the finding of new documentary sources, a new grouping proposal could be established, complementary to the initial one, containing specific authorship and dating of the fields added to the RN-IR. Therefore, for each author-researcher, there would be a concrete history of their contributions to the RN-IR, which would make it possible to assign different degrees of authorship to a specific grouping of the RAM-ADP design process.

As in phase II, the university or other organizations and institutions would have the occasion of using the ordering of the RAM-ADP design process as a methodological and assessment instrument for research production in the field of Architectural Projects, focused in the study of the design process and its construction, without impeding the subsequent application of any critical style of analysis. The validation of formal coherence of the documentary centres and the interpretative validation of the university or other organizations and institutions, refers to specific parameters of the design version and architectural type files, which would be likely to become indicators associated with levels of achievement likewise specific, and therefore, identifiable with a more founded architectural knowledge evaluation system, and even with academic recognition consistent with the work performed.

9. Phase IV: Graphic synthesis

The systematic application of the MRA-ADP does not prevent the researcher from accomplish a graphic reconstruction of part or all of the design process, based on the information and architectural knowledge created in the previous phases, which would provide a comprehensive vision, more synthetic and transmittable[19]. It would have the same validation conditions as in the third phase, since the nature of the graphic performance would be fundamentally interpretative, since both the objective graphic information and the information extracted from deductions from the RAM-ADP would be framed in a specific design version. The potential exploitation for documentary centres, researchers, and universities would be similar to that set forth in phase III for the same reasons specified therein.

10. Critical judgement

Based on the aforementioned experiences of practical application of the RAM-ADP and the analysis of its evolutionary potential, the following should be observed.

Despite its potential, it is necessary to indicate that its effective viability would be significantly conditioned, at least, by the institutional impulse for the creation and maintenance of the titular entity and the RN-IR, and also, by the change of mentality implied on the study of the design process according to the RAM-ADP, in documentary centres, researchers and universities or other organizations and institutions. Regarding this, it would be convenient to note the intrinsic goodness of safeguarding the architectural cultural heritage and of obtaining more fundamental architectural knowledge of the design process, recognized and beneficial by mutual validation, capable of extending internal and external critical research to the architectural project by means of both researchers or research groups that may investigate in different national and international locations.

It is evident that the RAM-ADP makes more sense in extensive and complex documentary bodies such as the case of the Valencian parish group. Other simpler design processes would not necessarily require the application of the RAM-ADP to detect the foci of greatest interest to critics, although its application would provide them with greater methodological solidity and better possibilities of extending the investigation. According to the above, if comparative studies of several projects are considered, even if they were minor, the quantity and complexity of the accumulated documentation could advise its use.

Finally, it can be concluded that, regardless of the existing inertia, the systematic application of the RAM-ADP by means of the RN-IR displays a relevant opportunity for methodological transformation, which conceives the design process as a specific area of knowledge of Architectural Projects, more grounded, supplementary to the existing one and open to architectural criticism, in tune with the desirable trend of achieving a more collaborative research environment and transcending the principles of Open Access and Open Science.

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18 Therefore, the analysis between projects analyzed by means of the RAM-ADP would make it possible to determine precise relationships between documentary units belonging to different projects, which would be instantly verifiable when consulting the RN-IR.

19 In the case of the Valencian parish group, the graphic synthesis made it possible to graphically reconstruct the second construction phase of the building, which had not been executed, according to the evolution of the design and construction process and the inherent values of the most perfected version of the project, the one on January 1964.

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