I. INTRODUCTION

The Asturias Central Area, here in after ACA, is a term commonly employed to designate the geographic area located at the heart of Asturias, which concentrates most of the population, industrial and urban activities of the region (GARCÍA-ÁLVAREZ, 2018). Although the term has been sometimes used to define an area with specific limits, it is used here in a broad sense, to designate the area at the heart of Asturias characterised by industrial and urban dynamics as opposed to the rest of the region.

The ACA is the product of the industrialisation and urbanisation of Asturias throughout the 19th and 20th centuries (CORTIZO et al., 1990; RODRÍGUEZ and MENÉNDEZ, 2005). It gained the attention of academics and policy-makers in the second half of the 20th century (DIRECCIÓN GENERAL DE URBANISMO, 1964; RODRÍGUEZ et al. 2009). Since then, a lot of planning documents and academic studies have focused their attention on its characterisation (CARRERO, 2011; GARCÍA-ÁLVAREZ, 2018). In this regard, the ACA has been defined under different terms, such as Astur City or the Asturias Central Metropolitan Area. Accordingly, there is no consensus on the way this area is conceptualised and characterised (CARRERO, 2011; GARCÍA-ÁLVAREZ 2018; GARCÍA et al., 2019).

One of the main issues that arise when studying the ACA refers to its delimitation. This is of special interest for spatial planning purposes. Planers require an area of action on which planning prescriptions can be applied. The current debate about the creation of a metropolitan area for the ACA (Gobierno Del Principado De Asturias et al. 2019) and the publication in 2016, for the first time, of spatial planning guidelines for the ACA (Gobierno Del Principado De Asturias, 2016), show that there is a need to characterise and delimitate the ACA, which has not been met yet.

Through this paper, we aim to reflect on the problem of the conceptualisation and delimitation of the ACA, looking for solutions that can satisfy the needs of policymakers and build consensus. To this end, we review the different delimitations of the ACA that have been proposed so far. Then, we discuss the criteria behind those delimitations, disentangling the key points that we must bear in mind to create a proposal that builds consensus and fits with the purpose for which it has been created. Finally, we discuss the feasibility and possibilities available to carry out the delimitation of the ACA according to the different purposes which were reviewed.

II. THE PHYSICAL AND CONCEPTUAL LIMITS OF THE ASTURIAS CENTRAL AREA: A REVIEW

A lot of documents and studies include a delimitation or specific conceptualisation of the ACA (CARRERO, 2011; GARCÍA-ÁLVAREZ 2018). We have classified them in four groups according to their nature and the criteria employed to carry out that delimitation. First, we review those works that propose a specific delimitation of the ACA based on a series of clearly stated quantitative criteria (II.1). Second, we review the works that propose a specific delimitation of the ACA without evidence about...
the criteria that has been employed (II.2). Third, we review those works that propose a general and conceptual delineation of the ACA, which is not evident at detailed scales (II.3). Finally, we review those works that identify a central area of Asturias differentiated to the rest of the region (II.4). Although they do not delimitate what we understand as ACA, these studies are useful for the analysis and discussion of the research question that we are addressing here.

1. ACA DELIMITATIONS BASED ON EXPLICIT QUANTITATIVE CRITERIA

Carrero (2011) proposed a delimitation of the ACA based on the combination of several quantitative criteria at the parish level as part of his PhD thesis (Fig. 2). The draft of spatial planning guidelines for the ACA of 2016 also included a similar proposal (Fig. 1). In both cases, the ACA limits were decided based on the degree of urbanisation, commuting intensities and the degree of tertiarisation of the parishes’ economy (Table 1).

Murcia (1980) delimitated the ACA as part of an academic study. The ACA was defined from the aggrupation of the cities at the top of the Asturias urban hierarchy plus their areas of influence, which were shaped according to the population and economy of their urban centres (Table II).

Based on commuting patterns, population data, land uses and housing data, the Urban Areas Statistical Atlas of Spain (MINISTERIO DE TRANSPORTES, MOVILIDAD Y AGENDA URBANA, 2020) proposes an ACA made up of 18 municipalities (Fig. 1). The Functional Urban Areas (FUA) proposed by the OECD and the European Commission (OCDE, 2012; SCHIAVINA, MORENO-MONROY, MAFFENINI and VENERI, 2019) identify three FUAs for Asturias, with cores in Oviedo, Gijón and Avilés. These three FUAs can be conceptualised together as the ACA (Fig. 3). Finally, the academic work of Castanyer, Menéndez and Sosa (1982) delimited the ACA based on a series of socioeconomic criteria, such as population, commuting, production and income (Table III).

2. ACA DELIMITATIONS WITH NO EXPLICIT CRITERIA

Several works propose specific delimitations of the ACA without providing evidence of the criteria behind those proposals. The academic works led by Fermín Rodríguez are a clear example of this type of delimitations (Fig. 5) (RODRÍGUEZ and MENÉNDEZ, 1999; RODRÍGUEZ and MENÉNDEZ, 2010; RODRÍGUEZ et al., 2013). Other cases of this type are included in the Spatial Planning Guidelines of Asturias (GOBIERNO DEL PRINCIPADO DE ASTURIAS, 1991) and the third Francoist plan of economic development (GARCÍA et al., 2019). Both documents proposed the same limits for the ACA (Fig. 1). As a result of academic studies, Fernández (1982) and Fernández and Fernández (1991) also proposed different delimitations of the ACA without a clear specification of the criteria followed to carry out the task (Fig. 6).

3. CONCEPTUAL ACA DELINEATIONS

From a conceptual point of view, many academics have proposed a general delineation of the ACA as an eight, a triangle and even as a trapezium (Fig. 7) (CORTIZO et al., 1990; MAURÍN, 1992; MÉNDEZ and ORTEGA, 2013). The update of the Spatial Planning Guidelines of Asturias of 2003, not passed yet, included a conceptual delineation of the ACA (Fig. 8) of similar nature and extent to the delimitation included in the 1991 guidelines (Fig. 1).

4. OTHER WORKS IDENTIFYING A CENTRAL AREA IN ASTURIAS

A few documents and studies identify an area at the heart of Asturias which is differentiated from the rest of the region. These proposals cannot be understood as delimitations of the ACA. They delimitate different areas according to specific purposes, which are not the general characterisation of an industrial and urban dynamic area of polycentric nature. Among these documents, we remark the General Urban Development Plan of the Asturias’ Central Region (Fig. 9) (DIRECCIÓN GENERAL DE URBANISMO, 1964), the second Francoist economic development plan (Fig. 9) (FERNÁNDEZ, 1984), the Sectoral Guidelines for Commercial uses (Fig. 10) (GOBIERNO DEL PRINCIPADO DE ASTURIAS, 2010), the health districts plan of Asturias (Fig. 11) (GARCÍA et al., 2019) and the local areas of work proposed by Boix and Galletto (2005) in an academic study (Fig. 12).
complex task that does not have an easy answer. Three factors explain the diversity of available proposals and point us to the elements we need to take into account in order to propose a consensus solution. They are the selection of phenomena to be delimited, the purpose of the delimitation and the data employed to carry out the task. The reviewed documents and studies delimited different phenomena, usually with different purposes and sometimes at different scales and making use of different data sources. Accordingly, one document disagrees with the other when conceptualizing and delimitating what we understand as the Asturias Central Area.

The documents reviewed in the section II.4 delimitate a clear phenomenon: commercial activity, areas of work... However, in the other cases, the phenomenon under delimitation is vaguer. It refers to a more or less integrated urban-industrial functional region. The focus of these delimitations is on the relationships of dependence that emerge between the main nodes of activity in the region and their areas of influence. According to these delimitations, the ACA spreads over the area on which these dependences operate. In real practise, these territorial dependences operate at all scales between all territories. Therefore, it is difficult to individualise a specific area based on these dependencies. To accomplish this task, we should select a threshold below which we consider that the dependence is not meaningful. This is not easy and will be decided at the author’s discretion, which will create disagreement between the delimitations proposed by different authors.

The proposals of Carrero and the Spatial Planning guidelines of 2016 delimitate that functional area based on a superposition of different criteria, each one referring to a different phenomenon: soil sealing, workers’ commuting and tertiarisation of the economy. Although all these phenomena characterise the ACA, a delimitation based on a superposition of the three is not useful for planning purposes. Notwithstanding, it may be helpful for academic reasoning and understanding of the studied area. In this regard, many of the reviewed delimitations come from academic backgrounds, proposing vague and flexible delimitations, based on the combination of different criteria, which do not usually fit with the planner’s needs.

Depending on we want to plan, one or other delimitation may provide more utility. When planning the land uses, a restricted delimitation of the ACA reduced to its more dynamic areas can be more useful. When planning the transport network and services, a maximalist delimitation of the ACA may be a better option, extending the ACA limits to all areas where there is a day-to-day interaction between the ACA core cities and the workers of other places of Asturias. As proposed by García et al. (2019), instead of a unique delimitation, when thinking about the purpose and utility of delimitating the ACA, we can propose the creation of different delimitations, each one adapted to a specific purpose or objective.

The ACA delimitation exercise must also take into account the available data sources to carry out the task. Most of the information is only available today per administrative or statistical unit. This constrains the proposed delimitation to the limits of the available units of information, mainly municipalities and parishes. Parishes split the Asturian territory with more detail than municipalities. However, only a few socioeconomic variables are available at this level. In addition, parishes are not levels of effective territorial government (Benito, 1999). Therefore, when opting for delimitations that follow administrative units, municipal limits are preferred.

The future availability of new sources of spatial data, which are not collected per administrative or statistical unit, would make possible to propose new ACA delimitations that are based on clear criteria and do not follow administrative limits. However, at the moment, the available spatial data sources for Asturias that provide this type of information are still limited. In the meantime, coupled proposals that provide together a specific delimitation adapted to the municipal limits and a conceptual territorial model delineation of the ACA, can provide an intermediate solution that gives answer to the constraints imposed by fixed administrative limits.

IV. DISCUSSION AND CONCLUSIONS

Two types of objectives have been usually behind the conceptualisation and delimitation of the ACA: the academic understanding and characterisation of this area and the definition of a specific area where to apply territorial policies. There has been a continuing interest in linking both objectives. In this regard, most of the academic studies that have characterised and proposed a specific delimitation of the ACA, stressed the importance of the ACA understanding and delimitation for planning purposes and placed themselves in the context of the planning debate about the ACA. However, the results of our review prove that the two objectives are not compatible.

The conceptualisation and delimitation of an integrated urban-industrial functional area for the centre of Asturias is useful to understand the territorial model of
The Asturias Central Area (ACA). The Problem of Its Delimitation

The Asturias Central Area (ACA) is a complex and elastic concept, characterised by territorial phenomena of different scale, nature and territorial impact (García et al., 2019). Each one should be managed at a different scale, which hampers the definition of a unique area where all policies can be applied. Geographically, the Asturias Central Area cannot be compared with a standard metropolitan area. Whereas traditional metropolitan areas are usually “closed” urban systems where there is a clear dependence from the peri-urban areas to the urban core (Esteban, 1981; Ferriá, 2008), with common problems across all this space (Font, 2004), this does not apply to the ACA. Accordingly, similar proposals of delimitation and characterisation usually employed for metropolitan areas do not fit well with the ACA.

The ACA has a polycentric structure. None of its urban cores plays a leading role, but all they are integrated and play complementary roles (Fernández et al., 2007; Gobierno del Principado de Asturias, 2016; Ortega, 2017). In addition, the influence that they have on the surrounding territories varies according to the scale and type of settlements (Rodríguez and Menéndez, 2005; Rodríguez et al. 2009, 2013; Carrero 2011). Whereas it is higher between the ACA urban cores and the immediate rural areas, it is less relevant in the case of rural spaces located outside the ACA core. In these areas, that influence is usually high on the villages that host the main settlements of each municipality, but very low in the other settlements of those municipalities. Moreover, because of the small size of Asturias, there are some phenomena that can only be explained at the regional scale (Gobierno del Principado de Asturias, 2006; García et al., 2019), which includes the ACA and the eastern and western territories of Asturias.

Because of the different influence that the ACA urban cores have on the rest of Asturias depending on the considered process, different delimitations should be proposed for the policies planning each type of process. Thus, we must leave behind the attempts to come with a single delimitation of the ACA valid for all purposes. On the contrary, to achieve a solution that builds consensus and is useful for policymaking, we should work on the proposal of different delimitations of the ACA adapted to each type of process that operates on the area and is object of policy interest. Only in this way we can overcome the current disagreement between different proposals and give a solution to the requirements of policymakers. Academics can help when making these sectorial delimitations, which would connect the interest and work of both communities: academia and policymakers.