

The Urban Book Series

Eugenio Arbizzani · Eliana Cangelli ·
Carola Clemente · Fabrizio Cumo ·
Francesca Giofrè · Anna Maria Giovenale ·
Massimo Palme · Spartaco Paris *Editors*

Technological Imagination in the Green and Digital Transition

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Chapter 51

The Buildings Reuse for a Music District Aimed at a Sustainable Urban Development



Donatella Radogna

Abstract Reusing buildings must be ‘convenient’ for the environment and for people, therefore it must re-establish a balance between places and communities which, interacting, determine a continuous transformation of cities. The reuse of buildings is a sustainable development process that implies phases of adaptation and qualitative growth to create safe, healthy, useful, attractive and beautiful places. The objective of the guidelines for the music district of Pescara (research for the conservatory) is to establish activities linked to music, culture and socialization, for the expansion of the ‘Luisa D’Annunzio’ Conservatory (through the reuse of the former Muzii middle school owned by the municipality) and provides the city with inclusive and beautiful places for all. The needs of different users (students of the conservatory and citizens) and those expressed by the client (music teachers and musicians) are considered to ensure the sustainability of the initiative through the integration of activities fit for restoring economic and social ‘gain’, according to an ecological approach. In providing the addresses for the required spaces, it was important to hypothesize additional functions and spaces to reborn the city with inclusion and beauty. The reuse of the former middle school was deemed ‘convenient’ (just as music is effective in restoring social inclusion and cultural development) thanks to the resilience capacities found. The proximity between the former school and the conservatory does not require substantial connection works and the proximity to the urban parks, the sea and the most ‘lively’ area of the urban center demonstrates an aptitude of the place for social reception thanks also to pedestrian and cycle paths. The spaces of the former classrooms are suitable for music teaching and recording studios as other existing spaces are for a music hub and other functions for the conservatory and the city, with a view to sustainable urban development.

Keyword Building and environmental reclamation · Reuse · Regeneration · Beauty · Psycho-physical well-being

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51.1 Introduction

Reuse acquired an increasingly broader meaning that from the rehabilitation of abandoned buildings extended to the regeneration of urban and extra-urban areas as well as the upcycling and downcycling of demolished materials, products and building elements. Reuse policies in fact have to face the environmental, economic and social dynamics of places (Ostanel 2017) and adjectives such as ‘sufficient’, ‘necessary’, ‘useful’, ‘convenient’ are very important and guide toward the design of places able to bring real benefit to people.

According to Dan Barash, the future of abandoned buildings can go in four directions (Barash 2019): 1. loss (disappearing through collapse or demolition), 2. oblivion (being forgotten and defining degraded scenarios), 3. re-imagination (being preserved and/or transformed in an appropriate way to outline innovative scenarios able to regenerate contexts) and 4. free transformation (dramatically and often unjustifiably modified).

The design of existing buildings has to protect above all people’s lives (Settis 2017), accepting compromises with the reasons of ecology and safety. The aim of the reuse project is to establish or re-establish a balance between the buildings, the users and the contexts in order to understand how much must be conserved, transformed, demolished, as places and communities interact, determining a continuous transformation of cities. (Martinotti 2017).

The reuse of the built environment is therefore to be understood as a process of sustainable development, a path of evolution that does not deny either transformation or conservation but implies phases of adaptation and qualitative growth aimed at creating safe, healthy, useful, attractive and beautiful places. Based on these concepts, the drafting of guidelines for the expansion of the Luisa D’Annunzio Conservatory in Pescara was an important opportunity to promote a convenient reuse policy and provides the city with a musical district (Fig. 51.1).

The experience, done for a contract for third parties¹ (Barash 2019), required an important cooperation between the conservatory, the municipal administration and the University to create a place capable of both satisfying the needs expressed by the higher education school and of triggering processes of cultural inclusion and dissemination. Music culture has been recognized as having the ability to improve economic and social conditions in a place to be built according to the principles of the green transition (especially in the use of energy and materials).

The main objectives of the work carried out are to satisfy the needs expressed by the conservatory in the most sustainable way. The methodology adopted, at first, focuses on the needs to have new classrooms and an auditorium larger than the one existing in the main used building. Then, the abandoned school performance is analyzed to define those to be achieved with the interventions. The proposed solutions suggest the achievement of broader objectives because they consider all

¹ Third party agreement between the L. d’Annunzio Conservatory and the Department of Architecture of the G. D’Annunzio University of Chieti-Pescara for the drafting of the Guidelines for the L. D’Annunzio Conservatory expansion (2018).



Fig. 51.1 Conservatory and the former school in the urban fabric

types of local resources to satisfy not only the needs of the conservatory but also those of the city. The closeness of the conservatory to the abandoned school, the city center, the sea, the urban parks, the cycle paths and the train and bus station was considered an important resilience capacity, to get started. The guidelines recall the objectives of digital transformation and ecological transition to guide the reuse of abandoned schools and thus equip the conservatory with new classrooms for music teaching, recording studios, an audio library and a hub (Fig. 51.2). A selective demolition and reconstruction project to build the new auditorium was suggested only for the large gymnasium of the former school, characterized by very serious structural problems and therefore not recoverable.

The guidelines in also providing indications for the design of in-between and urban spaces to promote regeneration through a strong connection between the conservatory and the city, is inspired by other effective European experiences such as the *Maison des Ensemble* (Filippini Architecture and patrimoine) in Paris and *Gillet Square* (Hawckins Brown) in London.

51.2 The Reuse of the Former Muzii Middle School

The hypothesis of reusing the school is mainly motivated by the recoverability of the technological system, the morphological-dimensional characteristics of the environmental system and the location of the building with respect to the urban fabric.

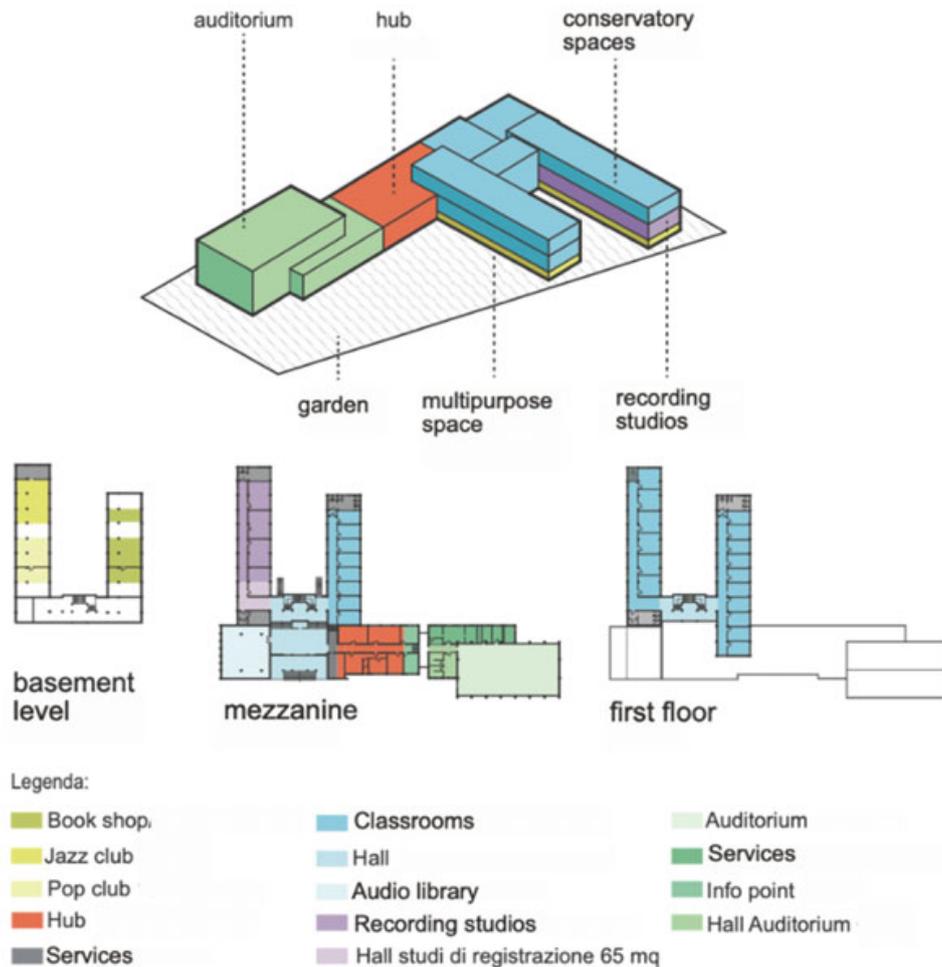


Fig. 51.2 New uses in the former school

The proximity of the school to the conservatory facilitates the organization of the new spaces because it does not require special connecting works and allows not to duplicate some functions. In addition, the connection (pedestrian, bicycle and vehicle paths) with the station, green areas, the sea and the most ‘lively’ area of the city center reveals an already existing integration with the city (Fig. 51.3).

In evaluating the reuse possibilities, the functions to be established were compared with the congenial characteristics and with the state of conservation of the environmental and technological systems to identify the constraints to modification and the latent potential. The main constraints are determined by the load-bearing structure in reinforced concrete, which does not allow the creation of large free spaces. Therefore, the functions that are not very compatible with this limit (auditorium) were located in the volumes to be demolished and rebuilt (large gymnasium). To contain the impacts of this hypothesis, the guidelines suggest to maximize the possibilities of reuse and recycling of the abandoned elements through selective demolition logic.

For the new classrooms, the recording studios and the hub, the evaluation of compatibility for reuse revealed a high suitability of the existing spaces, in terms of number, size and shape. The spaces of the former classrooms were found to be

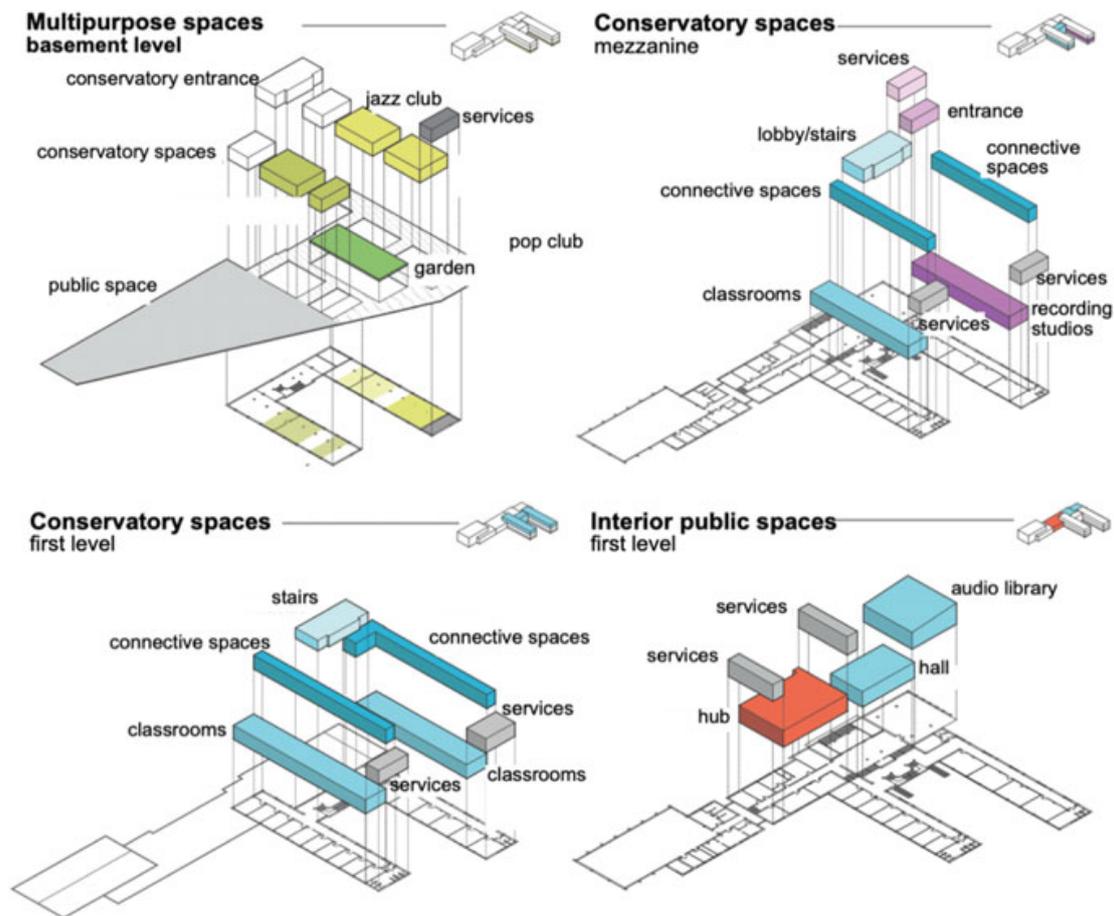


Fig. 51.3 Organization of the spaces at the different levels

appropriate to meet the needs of music teaching and recording studios as well as the other spaces, previously intended for other functions of the former school (corridors, secretariats, etc.), proved to be suitable to place a music hub and other service spaces.

For the load-bearing frame, retrofitting interventions are proposed, while for poor quality and very degraded walls, replacement with new high-performance systems is suggested, especially for safety, well-being, usability and environmental protection.

The results of the reuse options evaluations also suggest to transform the semi-underground environmental units (internal spaces near the 'street' and easy to be connected to public spaces) into a horizontal distribution and integration system as the main connection between the conservatory and the city. In this case, the transformation hypotheses affect not only the vertical closures but also the ground because they require a lowering of the external floor to improve the usability and comfort of the internal spaces and connect them directly with the open spaces and with the urban context.

The presence of the former school represents an important memory, even if it is not characterized by elements of particular value to be protected. The main values of the building are due to its position in the urban fabric and to the quantity, organization, size and shape of the internal and external spaces. The guidelines for the recovery and reuse project reveal how the constraints became the rules for the intervention choices

and for the control of the future life of the existing buildings, decreeing a close link between past, present and future according to the clear principle of responsibility that the concept of sustainable development dictates.

51.2.1 Spaces for Training and Music Production

The classrooms of the former school require significant structural, energy and functional redevelopment, as the 90% of Italian school buildings.

The hypotheses outlined consider the contents of law 107/2015 on the ‘Good school’, in particular as regards the safety and innovativeness of school buildings. Among the eleven fundamental points around which the law revolves, the one on built heritage is aimed at making existing schools safer and equipping every Italian region with at least one innovative school building.

These measures offer the possibility of making the spaces intended for training places capable of promoting social acceptance and the spread of culture as well as ‘soliciting’ the birth and dissemination of a building practice that is finally ‘greener’.

The hypotheses proposed to guide the project of the music classrooms aim at the creation of didactic spaces with high quality levels. The performance improvement is largely entrusted to the new closing and partitioning walls which will have to:

- Be structurally collaborative to deliver a good seismic response and not ‘break’ so as not to cause damage to users;
- Guarantee the conditions for the comfort and psycho-physical health of people;
- Allow flexibility of set-ups and spaces;
- Allow the containment of the impacts in the production and construction phases and energy consumption during the operation phase as well as maximizing the possibilities of reuse and recycling in a future disposal;
- Allow to facilitate maintenance actions, reducing intervention times and costs;
- Allow easy connection with existing building elements and specific equipment;
- Contribute to the containment of energy consumption;
- Determine a good architectural quality capable of making places attractive.

The proposals developed guide a project that is attentive to all phases of the building process to increase the sustainability of the actions starting from partial demolition operations, to the construction, operation and future disposal phases.

The new spaces for musical teaching are inserted in the two main bodies of the existing building, consisting of two levels above ground and a basement and connected to each other by the volume, transversal to them, containing other connecting spaces and the stairwell (Fig. 51.4).

The reorganization of the classrooms is conditioned by the relationships between the functions to be installed and by the opening to different types of users (inside and outside the conservatory, of different ages and with different times of attendance of the spaces), whose presence can ensure continuous use of new places.

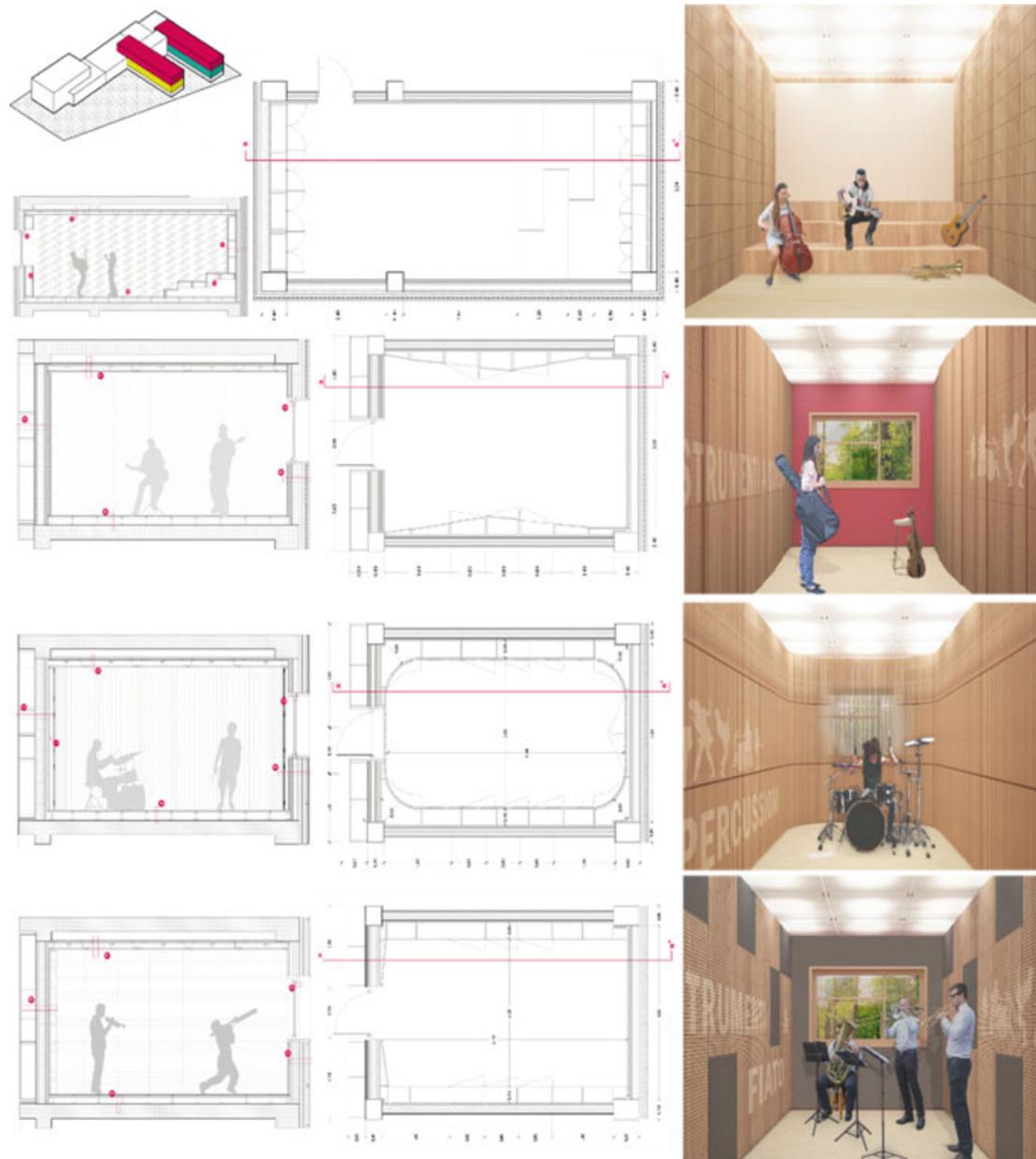


Fig. 51.4 Classrooms for playing the instruments

Foreseeing different types of users will allow to equip the conservatory with spaces that are economically and socially sustainable because they can be used both for internal activities and to satisfy external requests capable of giving an economic return. At the same time, the city will be provided with currently lacking services, intended both to meet the needs of musicians and to develop and spread the musical culture.

The guidelines propose classrooms for instrumental practice and study, classrooms for theoretical lessons as well as spaces for the production and digitization of music.

At the first level of the existing volumes, the location of the spaces with greater turnout and usable by external parties is foreseen while, at the second level, four types of classrooms are proposed for the exercise of musical instruments and rehearsals (for stringed instruments, wind, percussion, ensemble). For the classrooms, acoustic and spatial flexibility is envisaged both to meet the needs of different musical instruments and performances and to have classrooms capable of restoring both traditional spaces and larger spaces including primary and complementary areas.

The recording studios are on the first floor of the same volumes containing the music rooms and include a control room with two live rooms (one for pop music and one for classical music), a mastering room and a production room. The guidelines provide for diversified access and paths for the differentiated use of the spaces by users of the conservatory only, by external users only, by users of the conservatory and by external users at the same time. The recording studios could be rented out, to create micro-economies, forms of social welcome and diffusion of the musical 'world' not only in the playful-cultural dimension but also in the working one.

51.2.2 Spaces for Cultural Dissemination and Social Reception

To trigger regeneration processes in Pescara with the new Music District, the creation of spaces open to the city and including an audio library, a music hub and other spaces for recreation, relaxation and refreshment has been thought. For the audio library, the redevelopment of the former small gym is suggested through structural, energetic and functional adaptation works which also include the addition of a floor and the recovery of the materials of the demolished technical elements. The guidelines also suggest to give the possibility to listen and 'see' music at 360° through the installation of sound-video stations and equipment for immersive sound, consoles, multimedia totems and systems for augmented reality. The idea wants to allow people to live engaging and exciting experiences of watching videos or listening to recorded or live music (Favaro 2017). This new space should also include environments for listening to digital sources (workstations for listening to CDs) and analogue (workstations for listening to vinyls) (Fig. 51.5). According to the functional organization, the audio library allows access to a terrace that connects the new classrooms with the new auditorium.

The terrace is a garden roof with extensive evergreen vegetation, which in addition to acting as a thermal insulating and thermoregulatory element, contributing to the improvement of air quality, absorbing water and reducing the risk of flooding, allows to take advantage of the tax incentives provided by the 'Regulations for the development of urban spaces' (Budget Law 2018).

The recovery of the administrative offices and the connection and distribution areas of the former middle school (placed transversely to the volumes containing the classrooms and recording studios) provides for the organization of a hub and an



Fig. 51.5 Some spaces of the audio library and the hub

information and management point for all the activities of the new district. The hub is a place dedicated to music, in support of creativity, where students and professionals meet to develop projects to be placed on the market. A co-working space is proposed for those who want to make music or those who work or want to work in a music production can meet and discuss to realize their ideas. Recognized an important role for art and culture in regeneration strategies (Tarantino 2019), the integration between the new spaces for music and the city represents a key point for achieving effective results for a beautiful, inclusive and sustainable urban habitat (Fig. 51.5).

51.3 Conclusions

The hypothesis of reuse presented recalls some fundamental points of the European Green Deal. The building renovation works provide for high energy efficiency through the improvement of the behavior of the casings and the use of renewable sources. The proposed solutions include bio-dynamic facades able to make the most of the energy flows from the sun and wind. The control of natural light in the interior spaces of the classrooms is based on light deflectors (light-shelf).

Furthermore, the use of laminated wood and x-lam elements determines a consistent structural, comfort and circularity performance improvement.

The organization of the music district promotes the use of public transport and soft mobility as it provides a better connection between parking lots, e-bikes rent, cycle and pedestrian paths and the city bus station. The new activities that ‘open’ the conservatory to the city and integrate new functions linked above all to digitization, will be able to create new jobs also with reference to the future needs of the community.

In the proposal developed, musical culture is recognized as having a high potential to activate processes of recovery and resilience, thus also intercepting the approaches that refer to the objectives of the New European Bauhaus and lead to consider culture as the fourth pillar of sustainable development.

The guidelines have constituted a fundamental contribution to allow the Municipality of Pescara to draw up the project with which the conservatory participated in the MIUR announcement for 'Building interventions for AFAM institutions', obtaining funding of 10,000,000 euros. The project presented for the request for funding will therefore be carried out and will allow for a concrete confirmation of the repercussions that the scientific elaborations developed in the guidelines will produce in the actual context.

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