

Caring for collections in tropical environments: collecting and communicating data at Museu Paulista/USP, Brasil (1997-2000)¹

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Museu Paulista da USP

Introduction

The environmental data recorded since 1997 at Museu Paulista, Universidade de São Paulo, Brazil, is part of the "Museum Environmental Plan", a research project begun in 1996 and still in progress. The plan has as main objectives:

- to improve understanding the museum environmental conditions;
- to research, learn and compare the environmental conditions inside and outside the building;
- to develop a simple way of presenting this data so it could be used by all museum staff, researchers in general, graduate students and museums inside or outside Brazil;
- to help the museum staff plan their activities;
- to manage the collections preservation by studying each area individually, proposing changes when necessary;
- to contribute with other institutions by divulging our experience, problems and solutions;
- to contribute with the study of collections management in tropical countries².

The museum and the city of São Paulo

Museu Paulista da Universidade de São Paulo is known all over Brazil as the "Independence Museum". It is one of the most visited sites in the country and one of São Paulo's largest museums. The *Museu Paulista*, which is one of the four

1. This project would not exist without the hard work of Christine May Kauffmann Fidalgo (graphic designer, *Museu Paulista*); Alexandre Henrique da Silva (graduation student scholar 2001-2003, author of *Cartas Climáticas*); Lincoln Seiji Tejima (graduation student scholar 2000-2001 author of *Plantas temáticas*); Dinah Eastop (The Textile Conservation Centre, University of Southampton, UK) and Prof. Dr. Tarik Rezende de Azevedo from the *Laboratório de Climatologia e Biogeografia do Departamento de Geografia da FFLCH/USP* - who joined the project in 2002.

2. All the equipment described was sponsored by FAPESP, *Fundação de Amparo à Pesquisa do Estado de São Paulo*.

3. The other museums of the Universidade de São Paulo are: MAC - *Museu de Arte Contemporânea*, MAE - *Museu de Arqueologia e Etnologia* and MZ - *Museu de Zoologia*.

museums of the University of São Paulo³, is a social history museum located inside a park (FIGURE 1). The park has three different sections: the Independence group of statues, the French garden and fountain, all in the front side, and the grove at the back. The building that houses the museum is a 19th century neoclassical construction with open terraces and large halls (FIGURES 2-4).

When entering the museum one notices, almost immediately, that the environmental conditions outside and inside the building seem to be very similar: large open doors, open halls and corridors suggest there are no barriers from the outside climate, especially during rainy seasons, and indicates, as a first consideration, very improper conditions for the preservation of the museum's collections. Since the building is itself a monument and that means, in Brazil, that it cannot be altered, the comprehension of the environmental conditions was considered crucial. This project was conceived to investigate those conditions and highlight the differences, if existent, among the 33 areas monitored.



São Paulo, the third most populated city in the world, is located just by the Capricorn Line, on the "Planalto Atlântico", 700m above sea level and 45 km far from the Atlantic Ocean. Today its 16 million inhabitants share an area of 1.747 Km² in which 3 million vehicles generate 6.000 tons of pollutants every day. The study of São Paulo's climate conditions was considered essential to understand what happens inside the museum during the different seasons of the year. The bibliography available, however, indicated considerable differences when analysing environmental data of the city. An essay – based on that bibliography and on data reports provided by three different climate centres – was produced, balancing all information and considering only part of the data available⁴. Ipiranga – the area where the museum is located, presents a very peculiar climate if compared with other zones of the city of São Paulo: despite the park and the green areas existent, higher temperatures, weak winds, improper conditions for pollutants dispersion and very high concentration of population are some of its specific characteristics (FIGURE 5).

4. The essay was produced by Lincoln Seiji.Teshima "O meio físico da cidade de São Paulo", 2001 ; unpublished.



FIGURE 2 – General view from museum area with building in the back. Photo by José Rosael.



FIGURE 3 – Museu Paulista entrance and main hall. Photo by José Rosael.



FIGURE 4 – Main halls and stairs (left side). Photo by José Rosael.



FIGURE 5 – Open halls on gallery west. Photo by José Rosael.



FIGURE 6 – Archive and storage for photographs. Photo by José Rosael.

Recording relative humidity and temperature data

The places monitored during those four years included six storage facilities, the main entrance hall, the central stairs and all exhibition rooms including corridors. All rooms were monitored by Ratona's thermohygrographers. Since the museum had bought two units of that equipment in the previous years and considering that in 1996, when planning began, dataloggers were not easily available in Brazil, it was decided to invest in more units of the same equipment rather than move to a different supply. One of the advantages considered when choosing thermohygrographers was their "visibility": the data recorded would be visible to both staff and visitors. At that time the staff had to be convinced about the importance of putting the equipment in the rooms and the staff members were invited to cooperate with the project. Before long the data originated by the thermohygrographers started to be observed and compared by staff and also by visitors. Considering that *Museu Paulista* was one of the first museums in São Paulo to monitor collections in a large scale it was crucial that the staff and the public understood what was being done. The security staff started to take care of the equipment and ask frequently for details to better inform the visitors.

The particular problems the project had to be worried about during the four years were: the renewal works on the building; the several changes in

the exhibition rooms and the security of the equipment itself. From 1995 to 2000 the building was completely restored without the need of closing the museum to visitors. To make this possible exhibitions had to be held in turns, some rooms had to be closed while others were under work. It should be mentioned that firstly, restoration plans did not include the exhibition areas, so the risk of equipment and information accuracy were not considered when elaborating the environmental project. The termohygrographers always stayed in place, protected, except for one that invariably followed the coins and medals collections. The changes in the rooms were all recorded and will be considered in all future investigations.

5. The author means that examples of similar classifications in other museums with tropical environments were not found. Stefan Michalski's article "A discussion of correct/incorrect values." published in ICOM-CC 10th Triennial Meeting Preprints was crucial for establishing those levels.

The environmental plans (*plantas temáticas*)

The relative humidity and temperature data recorded during these four years offers us an important opportunity to analyse and understand the impact of those factors in museum collections, and may suggest, also, that museums situated in tropical environments should consider other values when discussing and evaluating their environmental conditions. However, all the information obtained would be useless if museum staff, researchers in general, graduate students and even the general public could not make use of it. Communication was always considered crucial; one of the main issues of the project was to provide information to help the museum staff plan their activities. During the first two years all data was transferred to an Excel[®] program that produced graphs for each one of the rooms. The understanding of the data and the graphs, however, was considered inadequate and confusing by the staff. Links between the graphs and people's working experiences had to be made clear.

To make all the records easily comprehensible to the museum staff, environmental plans were created. Adapting the museum plans and basing the work on geography, physics and architectural patterns, the environmental plans (*plantas temáticas*) were developed with the use of a CorelDRAW 9[®] program. The main criterion used to design the plans was the staff's comprehension. It was crucial that the plans could be easily assimilated and used without the assistance from a conservator.

The most difficult part when elaborating the plans was establishing diverse levels for relative humidity and temperature data. At the *Museu Paulista* relative humidity levels recorded varied from under 30% up to 98% , and temperatures from 12°C to 35°C approximately. What ranges should be classified as improper ones? What range would be considered "proper"? No references about similar classifications were found in the bibliography⁵. Decisions had to be made and it was decided that levels of relative humidity lower than 50% and higher than 80% would be considered improper; in between, two other levels were created. The 50-69% level was considered "proper" or the "good level" and the 70-80% level was considered acceptable. Four different shades of blue were used to indicate the four different levels in the plans. Since relative humidity data should be accentuated more than temperature information, RH numbers were located inside the plan while temperature numbers were positioned inside small bars.

Concerning the temperature, three levels were named: “the proper or the good temperature level” until 24°C; the “bad level” comprising level data between 25°C and 28°C and a “very bad level” including temperatures higher than 28°C. Three different colours were used to indicate the levels: yellow, orange and red. The author never felt comfortable about those classifications but it was assumed that distinctions should be made to the users of the environmental plans. Above all, the plans should point out to the staff which museum areas were better from the conservation point of view, and which ones needed more attention.

After some changes the plans were finally submitted for the museum staff’s evaluation and, since results were considered very successful, a total of 48 plans – one for each month of 1997, 1998, 1999 and 2000 - were produced. Recently, two museum activities involving collections have already planned their actions based on the environmental plans.

The author, besides having all the plans published here, intends to make them available on the web. Many small museums of Brazil have already inquired *Museu Paulista* about those environmental plans; the possibility of developing simple and low cost environmental studies is always mentioned as the main interest. Seminars about environmental studies in tropical climates to museum staff and the general public demonstrate a growing interest in the subject, probably due to the lack of information available in Portuguese and in outside conservation literature.

Understanding the records

Instability in relative humidity and temperature is expected in tropical climates. In the case of São Paulo’s climate, instability might mean, for example, changes in RH from 50% to 80% in few hours. What effects this instability has in the inside areas of the museum is what we want to determine from now on. The impact of these changes on museum objects, however, will not be discussed in the near future. Since the year 2000, the project was elected by the university training program to receive a two-year scholarship. That brought graduate students from the Geography course to work in the museum environmental project, substantially increasing the exchange of information.

The second part of the project – which commenced in 2002 – aims to evaluate the information recorded. Factors such as seasons of the year, climate phenomena like “El Niño” and “La Niña”, ventilation on the different floors, direct contact with external areas, levels of insulation, distances from the park’s vegetation and the park’s fountain, direction of the winds, exposure to external pollution, amount of visitors and duration of their stay in the rooms, and the amount of hygroscopic materials in the rooms monitored, should be carefully considered.

Once communication was identified as the main issue, another type of plan started to be developed. *Carta Climática* an individual plan of each space monitored, in which, besides the RH and the temperature data, information like room’s dimensions and finishings, number of doors, windows etc, collections exposed, recent modifications, visitors’s access, lighting and percentage of hygroscopic materials is shown together.

Conclusion

Brazil is a huge country and climate diversity is one of its characteristics. It is time for museums and research centres in the country to invest more deeply in environmental studies, but also to make conservation information simple and available to the museum community as a whole. Exchange of information and experiences, successful or not, should be stimulated. University museums like *Museu Paulista* can contribute to this exchange by not only divulging the data recorded but also developing, adapting and sharing simple conservation practices.

Acknowledgements

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- . Dinah Eastop (The Textile Conservation Centre, University of Southampton) for her precious comments on this paper and project;
- . Prof. Dr. Tarik Rezende de Azevedo from *Laboratório de Climatologia e Biogeografia do Departamento de Geografia da FFLCH/USP* - who joined the project in 2002;
- . Christine May Kauffman Fidalgo for her technical support and constant encouragement;
- . Alexandre Henrique da Silva, who planned and created all *Cartas Climáticas*;
- . Lincoln Seiji Tejima for his research on São Paulo's climate;
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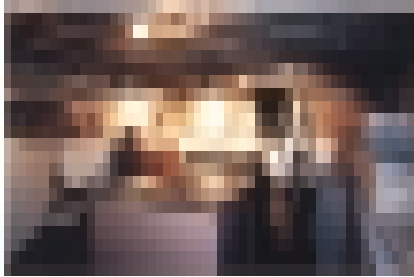
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Artigo apresentado em 7/2003. Aprovado em 9/2003.

Projeto de Monitoramento Ambiental

Plantas Temáticas e Fichas Técnicas Climáticas

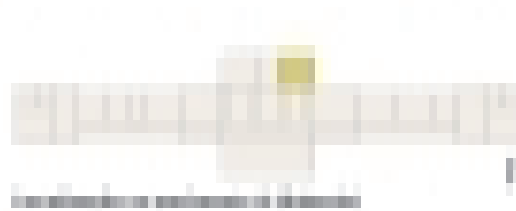
Coordenação geral:	Teresa Cristina Toledo de Paula
Criação dos primeiros gráficos em Excel^R :	Luciano A. Beraldo
Coleta e transferência de dados até 2000:	Teresa Cristina Toledo de Paula
1. Plantas Temáticas – Microclimas do Museu Paulista	
Projeto Gráfico:	Christine May Kaufmann Fidalgo
Concepção:	Lincoln Seiji Tejima Christine May Kaufmann Fidalgo Teresa Cristina Toledo de Paula
Execução e transferência de dados:	Lincoln Seiji Tejima (1997-1999) Alexandre Henrique da Silva (2000)
Assistência em informática:	Leandro Luiz dos Santos Regina Luciano A. Beraldo Tomas Adamavicius
2. Fichas Técnicas Climáticas	
Projeto Gráfico:	Christine May Kaufmann Fidalgo
Concepção:	Alexandre Henrique da Silva Christine May Kaufmann Fidalgo Teresa Cristina Toledo de Paula
Execução e transferência de dados e imagens:	Alexandre Henrique da Silva
Fotografias:	Hélio Nobre José Rosael
Assistência em informática:	Leandro Luiz dos Santos Regina Luciano A. Beraldo Tomas Adamavicius
Observações:	
1. Nem todas as áreas estudadas começaram a ser monitoradas na mesma data;	
2. Algumas informações estão registradas apenas na primeira Planta Temática;	
3. Não existe uma ficha técnica climática para a sala C-7 (fechada) embora ela tenha sido monitorada no período e conste nas Plantas Temáticas;	
4. Todas as áreas com acervo, cujos responsáveis aderiram ao projeto, foram monitoradas.	



Investigación:
 ¿Qué papel juega el agua en el ciclo de vida de un organismo?
 ¿Cómo se relaciona el agua con la vida?

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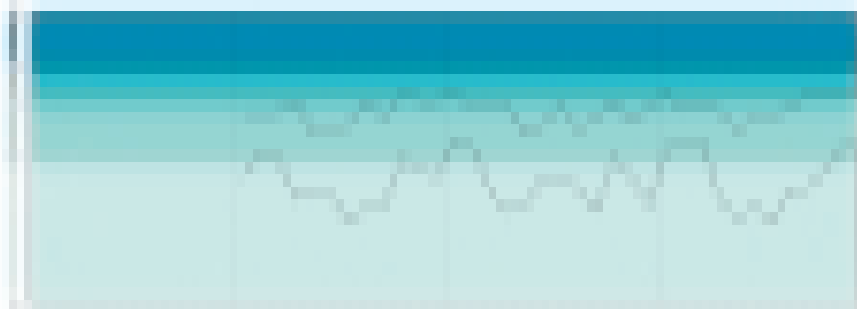


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**como chegar ao ponto
NÃO É O SEU INTERESSE**



Concentração precisa e intencional

Como chegar:

1. Definir o objetivo e o tempo de duração
2. Definir o plano de ação

Como chegar, passo a passo:

1. Definir o objetivo e o tempo de duração
2. Definir o plano de ação
3. Definir o plano de ação

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1. Definir o objetivo e o tempo de duração
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3. Definir o plano de ação

4. Definir o plano de ação

5. Definir o plano de ação

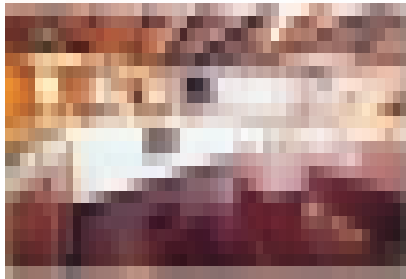
6. Definir o plano de ação

Como chegar ao ponto e manter o ponto desejado



Como chegar ao ponto e manter o ponto desejado





Aspetti Economici

Il 2011 è stato un anno di crescita per l'Italia, con un aumento del PIL del 1,9%.

Indicatore di Sintesi

Il PIL è cresciuto del 1,9%.

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Struttura del prodotto interno lordo

Indicatore

Il PIL è cresciuto del 1,9% nel 2011.

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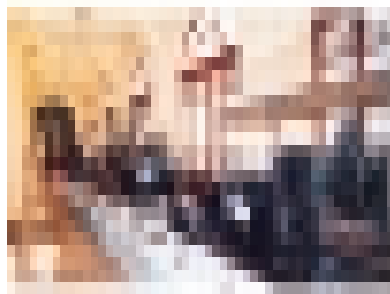
Il PIL è cresciuto del 1,9% nel 2011.

Il PIL è cresciuto del 1,9%



Il PIL è cresciuto del 1,9%





Nome/Spazio:
 Nome e cognome completo, titolo, indirizzo e numero di telefono.

Indirizzo/ Indirizzo:
 Indirizzo completo e città.

nome cognome completo
 titolo e numero di telefono



Indirizzo/ Indirizzo

Indirizzo:
 Indirizzo completo e città.

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Indirizzo:
 Indirizzo completo e città.

Indirizzo di ricerca e indirizzo di ricerca



Indirizzo di ricerca e indirizzo di ricerca





CONTO DI RENDIMENTO PER IL 2018



Conto di rendimento 2018

Spese

Spese di gestione e altre

Individuazione dell'investimento

PER IL 2018: + Rendimento di base

PER IL 2018: + Rendimento

Rendimenti

Rendimento: $\frac{100}{100} \times \frac{100}{100} = 100\%$

Spese: Rendimento di base

Rendimento: Rendimento di base

Rendimento: $\frac{100}{100} \times \frac{100}{100} = 100\%$

CONTO DI RENDIMENTO E ANALISI DEI RISCHI DELLA SICURTÀ



CONTO DI RENDIMENTO E ANALISI DEI RISCHI DELLA SICURTÀ 2018





PROVA DI SCIENZE INTEGRATE
MATERIA DI FISICA



Figura 1: Schema di un sistema di forze.

Domanda: Calcolare la risultante delle forze applicate al sistema mostrato in figura 1. Indicare anche il punto di applicazione della risultante rispetto al centro della base.

Risposta:
 Risultante: $R = 100 \text{ N}$ (verso l'alto)
 Punto di applicazione: $x = 0,5 \text{ m}$ dal centro della base.

Figura 2: Grafico della temperatura in funzione del tempo.



Figura 3: Grafico della temperatura in funzione del tempo.





CONTOH RENCANA KEGIATAN



Contoh rencana kegiatan (Gantt)

Kelebihan Rencana

- Dapat diukur & diawasi
- Dapat diukur & diawasi
- Dapat diukur & diawasi
- Dapat diukur & diawasi

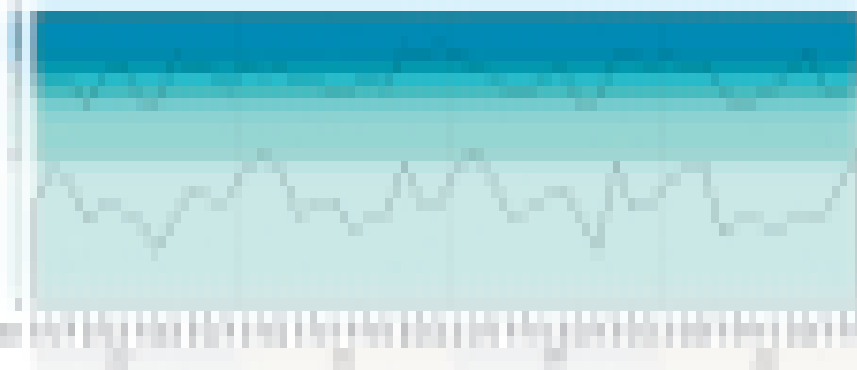
Kekurangan Rencana

- Tidak dapat diukur & diawasi
- Tidak dapat diukur & diawasi

Kelebihan

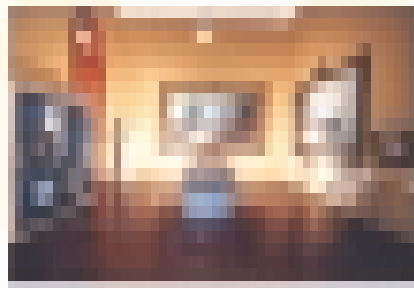
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- Dapat diukur & diawasi

RENCANA KELOMPOK & MANAJEMEN KELOMPOK (KEMUKA)



RENCANA KELOMPOK & MANAJEMEN KELOMPOK (KEMUKA)





some common conditions
that can occur in the system



Diagram illustrating a common condition in the system

System Overview:
The system consists of a generator connected to a busbar, which is then connected to a load. The generator is controlled by a governor, and the load is controlled by a controller.

Common Conditions:
The system can experience several common conditions, including:

Conditions:

- 1. **Generator Trip:** The generator can trip due to a fault or a protective relay action.
- 2. **Load Trip:** The load can trip due to a fault or a protective relay action.
- 3. **Busbar Trip:** The busbar can trip due to a fault or a protective relay action.

Diagram illustrating the response of the system to a generator trip

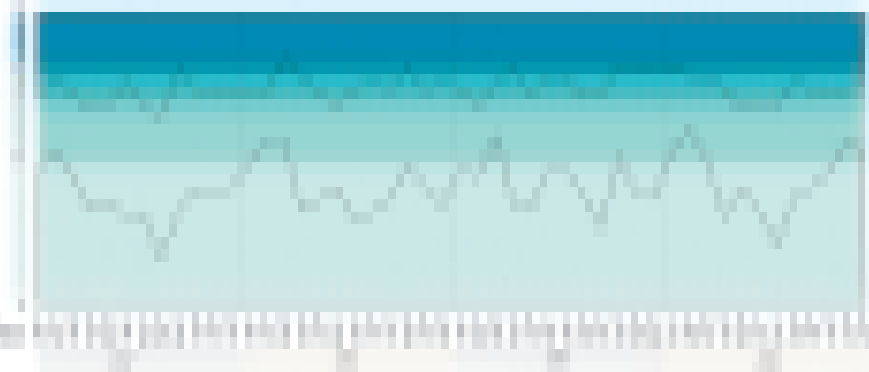
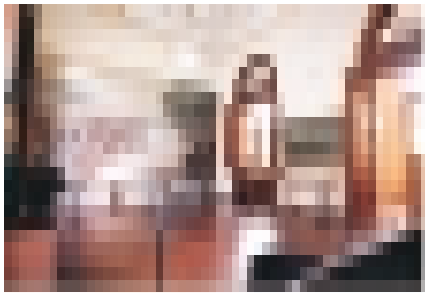


Diagram illustrating the response of the system to a load trip





PROVA DE CONHECIMENTO DE FARMACOLOGIA



Diagrama de localização do coração e pulmões.

Objetivo

Identificar os efeitos farmacológicos de um fármaco em um sistema fisiológico.

Informações Adicionais

Este é um teste de conhecimento de farmacologia.

Este teste contém 10 perguntas.

Respostas

Resposta: **1) A) Aumentar a frequência cardíaca.**

Resposta: **2) B) Aumentar a pressão arterial.**

Resposta: **3) C) Aumentar a frequência cardíaca.**

Resposta: **4) D) Aumentar a pressão arterial.**

Resposta: **5) E) Aumentar a frequência cardíaca.**

Resposta: **6) A) Aumentar a frequência cardíaca.**

Resposta: **7) B) Aumentar a pressão arterial.**

PROVA DE CONHECIMENTO DE FARMACOLOGIA



PROVA DE CONHECIMENTO DE FARMACOLOGIA





Nome Cliente:
Indirizzo:
Telefono:
Indirizzo Email:

Conto Corrente



Conto Corrente

Conto Corrente

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Conto Corrente





Environmental System Case Study: Environmental



Breakdown of Environmental System

System Overview

The system is designed to monitor and control the environmental conditions of the facility. It includes a network of sensors and actuators that provide real-time data to the control system.

System Architecture

The system is composed of several key components:

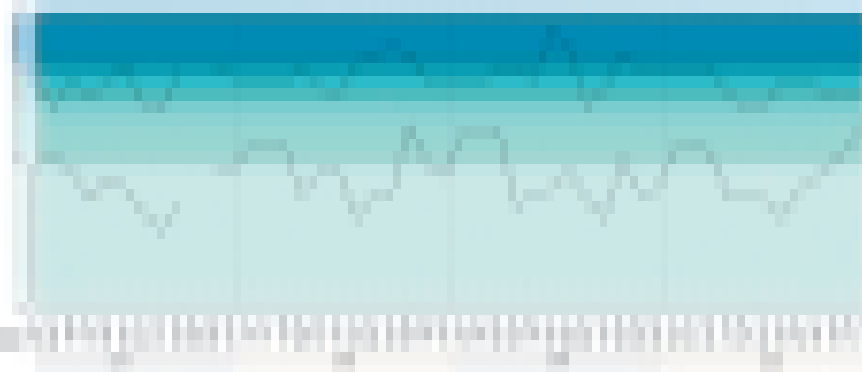
- Control System:** The central brain of the system, responsible for processing data and issuing control commands.
- Network:** A robust communication network that connects all system components.
- Sensors:** Devices that measure environmental parameters such as temperature, humidity, and air quality.
- Actuators:** Devices that execute control commands to adjust environmental conditions.

The system is designed to be highly reliable and scalable, allowing it to be expanded as the facility grows.

Summary

- System:** Environmental System
- Case:** Environmental System
- System:** Environmental System
- System:** Environmental System

Environmental System & Network Performance



Environmental System & Network Performance





Workflows in action

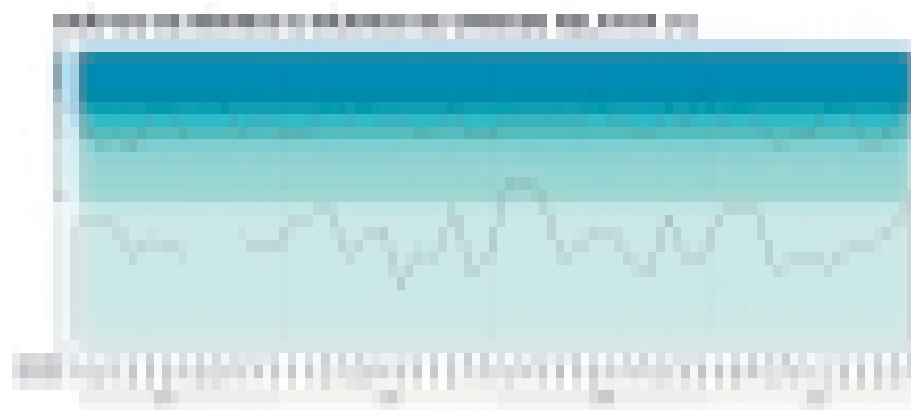


Workflows in action
 A workflow is a series of steps that are performed in a specific order to achieve a goal.

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more about the MILLER 6.00 (MILLER)



Technical drawing of the Miller 6.00 component.

Miller 6.00

The Miller 6.00 is a high-performance, multi-axis CNC machine tool. It is designed for precision manufacturing of complex parts. The machine features a rigid cast-iron frame and a high-speed spindle. It is capable of processing a wide range of materials, including steel, aluminum, and titanium. The Miller 6.00 is a versatile machine that can be used for a variety of applications, including prototyping, production, and repair work.

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Miller 6.00

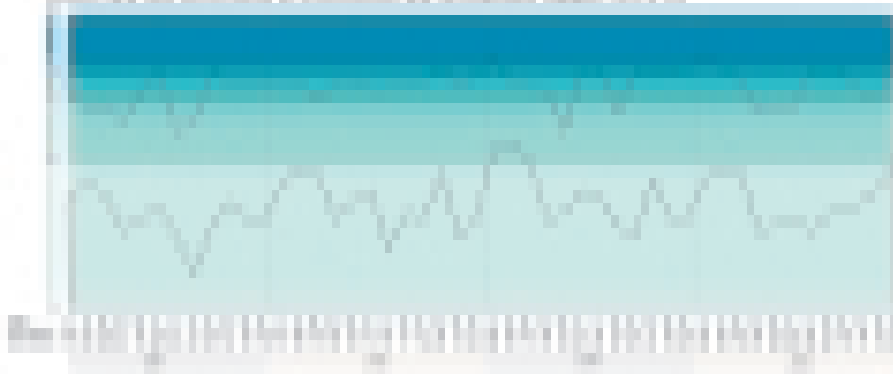
The Miller 6.00 is a high-performance, multi-axis CNC machine tool. It is designed for precision manufacturing of complex parts. The machine features a rigid cast-iron frame and a high-speed spindle. It is capable of processing a wide range of materials, including steel, aluminum, and titanium. The Miller 6.00 is a versatile machine that can be used for a variety of applications, including prototyping, production, and repair work.

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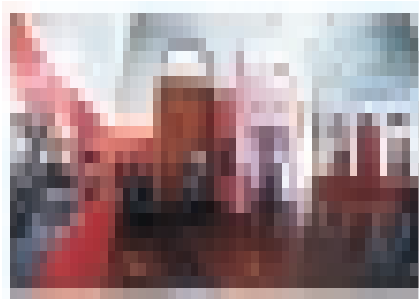
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Miller 6.00 (MILLER) - Temperature (°C)



Miller 6.00 (MILLER) - Temperature (°C)





How do you control the concrete temperature?



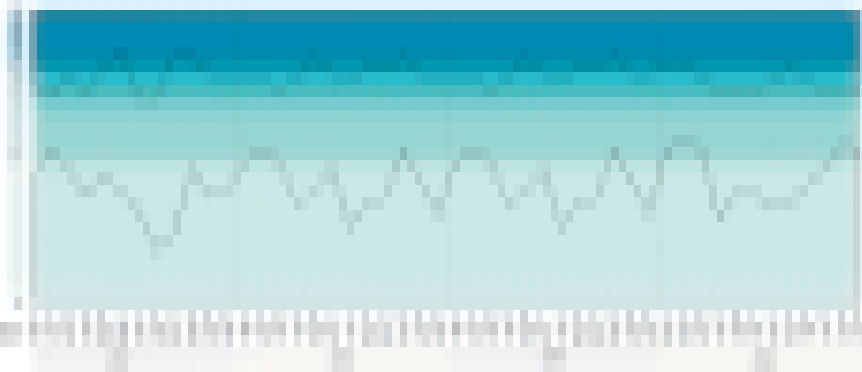
Diagram of a concrete slab with a cooling pipe.

Control Methods:
 Insulation, chilled water pipes, heat exchangers, etc.

Temperature Monitoring:
 Sensors and data loggers.

Example:
 Location: [Blank] [Blank] [Blank] [Blank] [Blank]
 Date: [Blank] [Blank] [Blank]
 Time: [Blank] [Blank] [Blank] [Blank]
 Status: [Blank] [Blank] [Blank]

Analysis of temperature monitoring data (blue)



Analysis of temperature monitoring data (yellow)





una classe speciale SALVARE I DATI DEI PRONTI



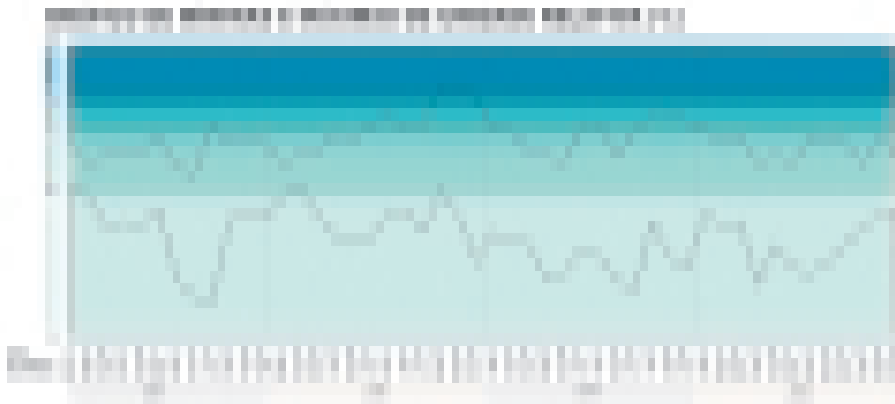
Analisi automatica e filtrata

Analisi Automatica
 ANALISI AUTOMATICA E FILTRATA

Analisi Automatica
 ANALISI AUTOMATICA E FILTRATA
 ANALISI AUTOMATICA E FILTRATA
 ANALISI AUTOMATICA E FILTRATA
 ANALISI AUTOMATICA E FILTRATA

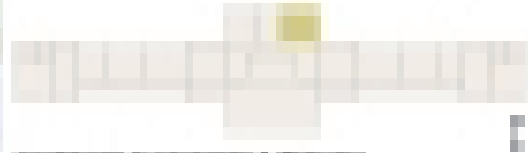
Analisi Automatica

ANALISI AUTOMATICA E FILTRATA
 ANALISI AUTOMATICA E FILTRATA
 ANALISI AUTOMATICA E FILTRATA
 ANALISI AUTOMATICA E FILTRATA
 ANALISI AUTOMATICA E FILTRATA





ANALISA DE TEMPERATURA AMBIENTE PLANTA DE 1.º E 2.º ANDARIMOS DO BLD



ANALISA DE TEMPERATURA AMBIENTE (continua)

Legenda:

1.º ANDARIMOS - 1.º ANDARIMOS - 1.º ANDARIMOS
2.º ANDARIMOS - 2.º ANDARIMOS - 2.º ANDARIMOS

1.º ANDARIMOS - 1.º ANDARIMOS - 1.º ANDARIMOS
2.º ANDARIMOS - 2.º ANDARIMOS - 2.º ANDARIMOS
3.º ANDARIMOS - 3.º ANDARIMOS - 3.º ANDARIMOS

Legenda:

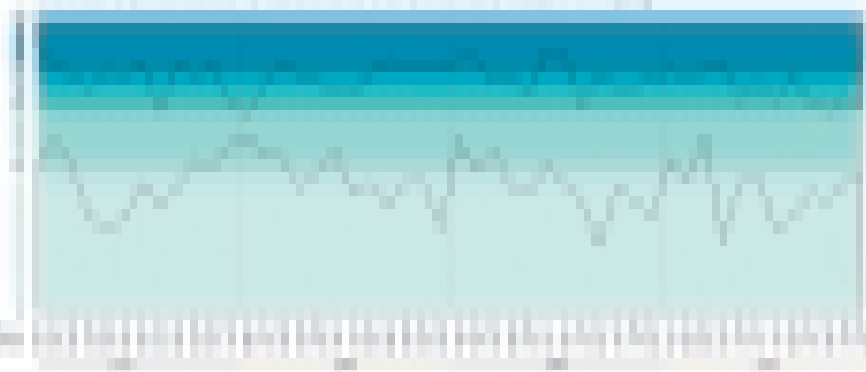
1.º ANDARIMOS - 1.º ANDARIMOS - 1.º ANDARIMOS
2.º ANDARIMOS - 2.º ANDARIMOS - 2.º ANDARIMOS

1.º ANDARIMOS - 1.º ANDARIMOS - 1.º ANDARIMOS
2.º ANDARIMOS - 2.º ANDARIMOS - 2.º ANDARIMOS

1.º ANDARIMOS - 1.º ANDARIMOS - 1.º ANDARIMOS
2.º ANDARIMOS - 2.º ANDARIMOS - 2.º ANDARIMOS
3.º ANDARIMOS - 3.º ANDARIMOS - 3.º ANDARIMOS

1.º ANDARIMOS - 1.º ANDARIMOS - 1.º ANDARIMOS

ANALISA DE TEMPERATURA AMBIENTE (continua)



ANALISA DE TEMPERATURA AMBIENTE (continua)





How does a system work?

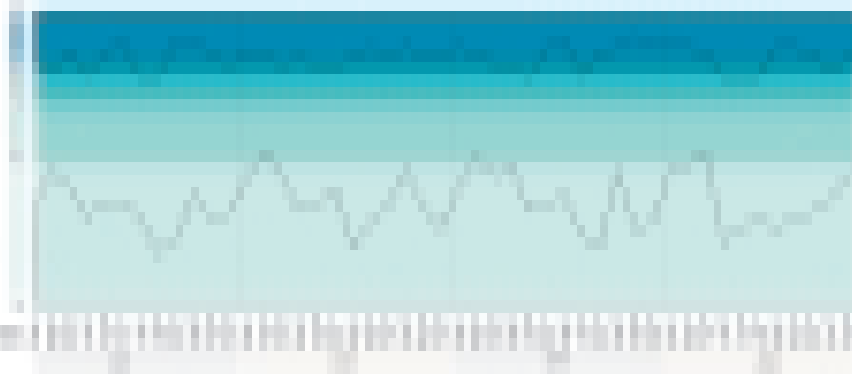


Example of a system (block diagram)

System description
 A system is a collection of components that interact with each other to perform a specific function.

Example
 Consider a system with two inputs and one output.
 Input: $x_1(t)$ and $x_2(t)$
 Output: $y(t)$
 The system is described by the following equation:
 $y(t) = x_1(t) + x_2(t)$

Block diagram of a system with two inputs and one output



Block diagram of a system with two inputs and one output





www.dance.us/2017/01/20/2017-2018



Source: www.dance.us/2017/01/20/2017-2018

Category: www.dance.us/2017/01/20/2017-2018

Summary:

Number: 1,000 (1) Jan 2018 (1)

Year: 2018

Unit: International students

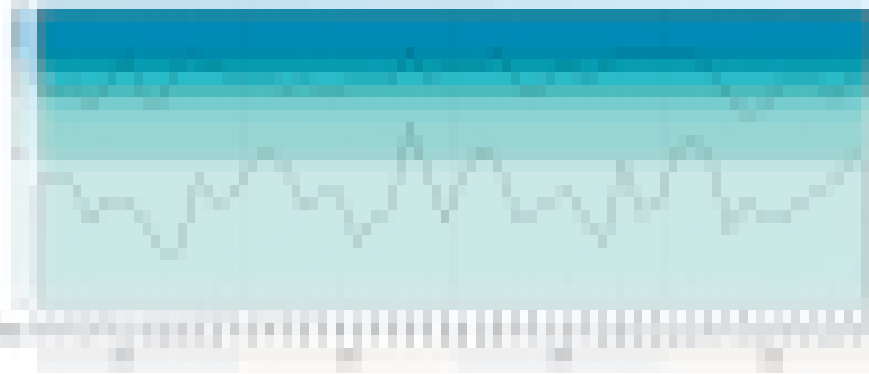
State: International students

Country: 1,000 (1) 1,000 (1) 1,000 (1)

Year: 1,000 (1) 1,000 (1)

Unit: 1,000 (1) 1,000 (1)

PERFORMANCE OF INTERNATIONAL STUDENTS (2017-2018)



PERFORMANCE OF INTERNATIONAL STUDENTS (2017-2018)





area classe vecchia SALA D'ASSEMBLEA E COLLETTA



Architettura Roberto Calvesi

Area Classe

La sala d'assemblea è stata progettata per ospitare circa 100 persone. È dotata di un sistema di illuminazione a LED, di un sistema di ventilazione meccanica controllata (VMC) e di un sistema di riscaldamento a pavimento. La sala è anche dotata di un sistema di audio e video, di un sistema di proiezione e di un sistema di registrazione.

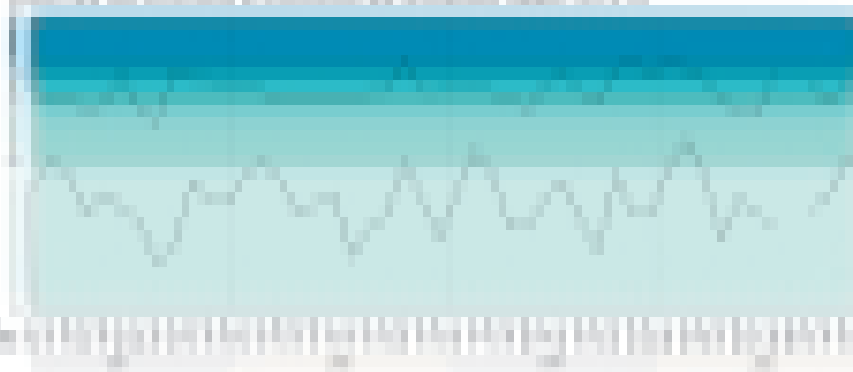
Caratteristiche

Superficie: 100 m² (1000 mq)
Volume: 1000 m³ (10000 mc)
Costo: 1000000 € (10000000 €)
Materiali: Legno, Gesso, Cemento, Acciaio, Vetro, Ceramica, Alluminio, PVC, Pannello acustico, Pannello isolante, Pannello di protezione, Pannello di decorazione, Pannello di illuminazione, Pannello di ventilazione, Pannello di riscaldamento, Pannello di audio e video, Pannello di proiezione, Pannello di registrazione.

Materiali utilizzati

Legno, Gesso, Cemento, Acciaio, Vetro, Ceramica, Alluminio, PVC, Pannello acustico, Pannello isolante, Pannello di protezione, Pannello di decorazione, Pannello di illuminazione, Pannello di ventilazione, Pannello di riscaldamento, Pannello di audio e video, Pannello di proiezione, Pannello di registrazione.

ANDAMENTO DEL TEMPERA E DELL'UMIDITÀ RELATIVA (PERCENTUALE) PER IL TEMPERATORE



ANDAMENTO DEL TEMPERA E DELL'UMIDITÀ RELATIVA (PERCENTUALE) PER IL TEMPERATORE





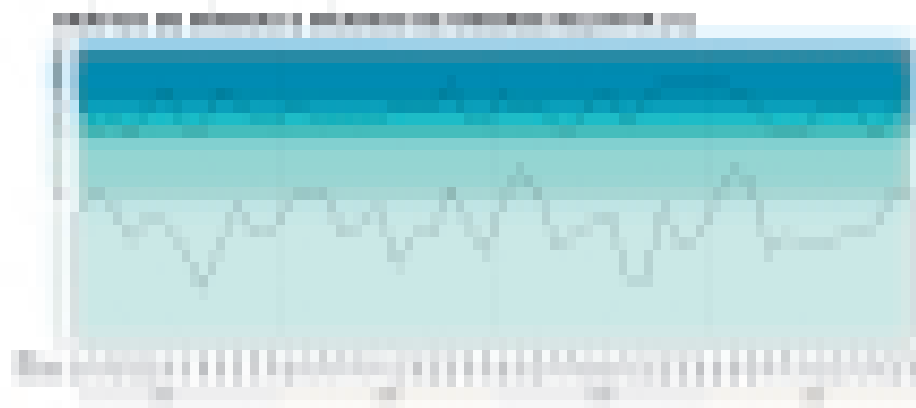
PROVA TÉCNICA DE MATERIAIS



OBJETIVO
 Avaliar a resistência à tração e a ductilidade de um material sob tensão uniaxial.

Introdução
 Este ensaio é realizado em um equipamento de ensaio de tração.

PROCEDIMENTO
 1. Preparar o corpo de prova.
 2. Medir o comprimento inicial e a área da seção transversal.
 3. Aplicar a carga e registrar a deformação.
 4. Registrar a carga máxima suportada e a deformação correspondente.





CONCEPTO DE INTERIORES DE UN RESTAURANTE



Diagrama de distribución del restaurante

Descripción General

Este proyecto de interiores para un restaurante de 150 m² busca crear un ambiente acogedor y moderno. El diseño se centra en el uso de materiales naturales como la madera y el concreto, combinados con elementos contemporáneos como iluminación integrada y muebles minimalistas. El espacio está dividido en zonas para comedor, barra y cocina, con una circulación fluida y una estética limpia.

Elementos Principales

Este proyecto de interiores para un restaurante de 150 m² busca crear un ambiente acogedor y moderno. El diseño se centra en el uso de materiales naturales como la madera y el concreto, combinados con elementos contemporáneos como iluminación integrada y muebles minimalistas. El espacio está dividido en zonas para comedor, barra y cocina, con una circulación fluida y una estética limpia.

Detalles

Material: Madera de roble, concreto pulido, acero inoxidable.

Color: Tonos neutros, beige, gris, verde esmeralda.

Iluminación: Puntos de luz integrados en el techo, lámparas de mesa modernas.

Acabados: Pintura mate en paredes, papel tapete texturizado en zonas de acento.

Diagrama de distribución del restaurante de 150 m²

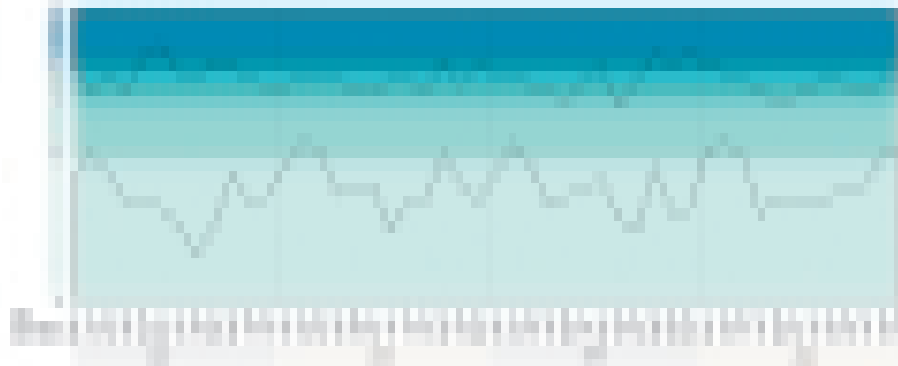


Diagrama de distribución del restaurante de 150 m²





How does a person use their attention?



Attentional resources & memory

Attentional Resources
 How much attention can a person use at any one time?
 Attentional Resources are limited.

Attentional Resources
 Attentional Resources are limited.
 Attentional Resources are limited.

Examples

Example 1
 Attentional Resources are limited.

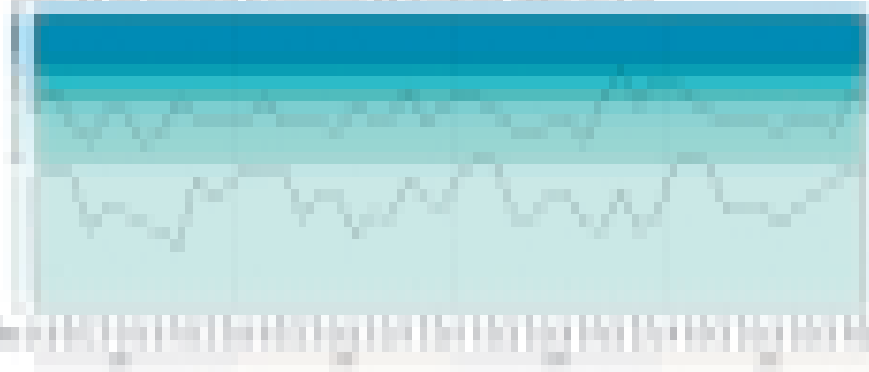
Example 2
 Attentional Resources are limited.

Example 3
 Attentional Resources are limited.

Example 4
 Attentional Resources are limited.

Example 5
 Attentional Resources are limited.

Attentional Resources & Memory



Attentional Resources & Memory





Section 1



Section 1

Section 1

Section 1

Section 1

Section 1

Section 1

Section 1

Section 1





ANALISIS DE DATOS DE TEMPERATURA



Diagrama de distribución de sensores

Objetivo:
 Analizar los datos de temperatura de los sensores de la sala de reuniones.

Alcance: Sala de reuniones

Resumen:

Periodo: 01/01/2023 - 31/12/2023

- Objeto:** Sala de reuniones
- Ubicación:** Sala de reuniones
- Estado:** En funcionamiento
- Acción:** Analizar los datos de temperatura de los sensores de la sala de reuniones.

Gráfico de líneas de temperatura de los sensores de la sala de reuniones

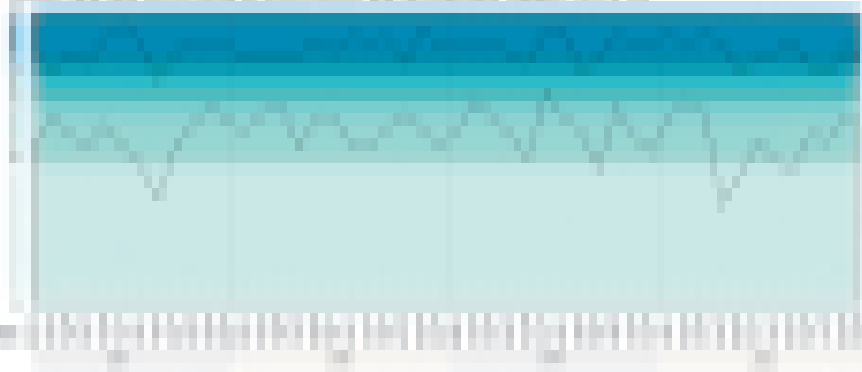


Gráfico de líneas de temperatura de los sensores de la sala de reuniones





more changes in volume
 make it an interesting performance



Individuals Estimated Mean

Source Example

https://www.youtube.com/watch?v=8K9P...
 (video link)

Individuals Estimation

https://www.youtube.com/watch?v=8K9P...
 (video link)

It is important to understand the
 difference between individual
 and a group of people that share

Example

https://www.youtube.com/watch?v=8K9P...
 (video link)

https://www.youtube.com/watch?v=8K9P...
 (video link)

https://www.youtube.com/watch?v=8K9P...
 (video link)

https://www.youtube.com/watch?v=8K9P...
 (video link)

https://www.youtube.com/watch?v=8K9P...
 (video link)

Individuals Estimation of Temperature (°C)



Individuals Estimation of Temperature (°C)





PROVA TÉCNICA DE ANÁLISE DA LUZ EM INTERIORES HISTÓRICOS



ANÁLISE DA LUZ EM INTERIORES HISTÓRICOS

OBJETIVO:
Analisar a qualidade da iluminação em interiores históricos, considerando aspectos técnicos e estéticos.

Metodologia:
Medições de iluminação e análise de dados.

RESULTADOS:

Medições: 100 lx, 200 lx, 300 lx, 400 lx, 500 lx

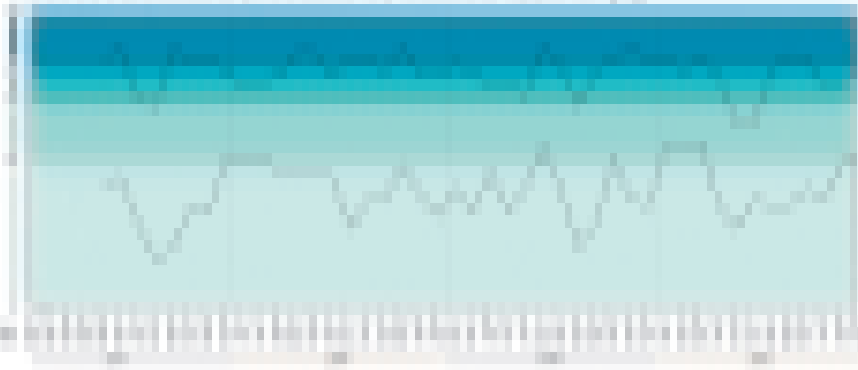
Local: Sala de estar

Data: 10/10/2023

Equipamento: Luxímetro digital

Observações: Valor médio

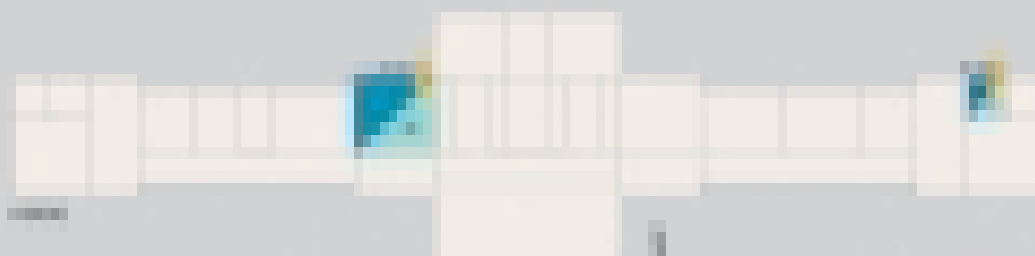
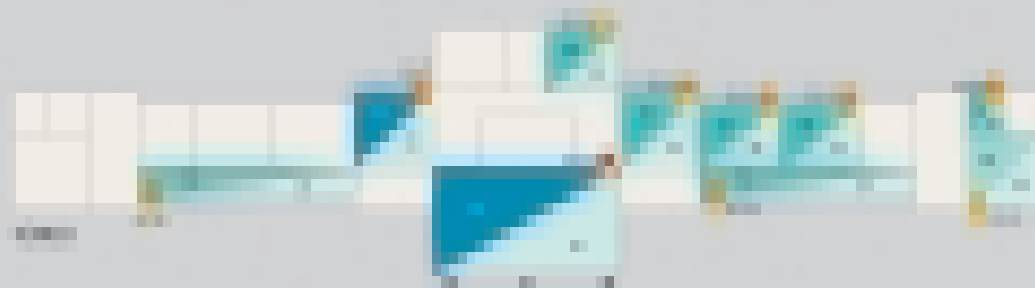
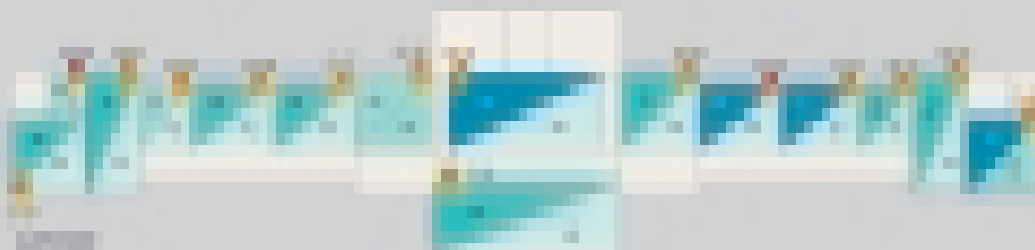
ANÁLISE DA LUZ EM INTERIORES HISTÓRICOS - GRÁFICO DE ILUMINAÇÃO (lx)









ANÁLISE DA LUZ EM INTERIORES HISTÓRICOS - GRÁFICO DE TEMPERATURA (°C)



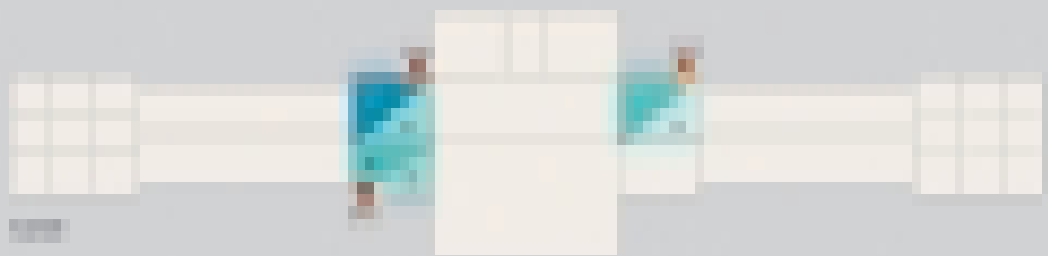
Plano familiar - Microclimas do Museu Paulista



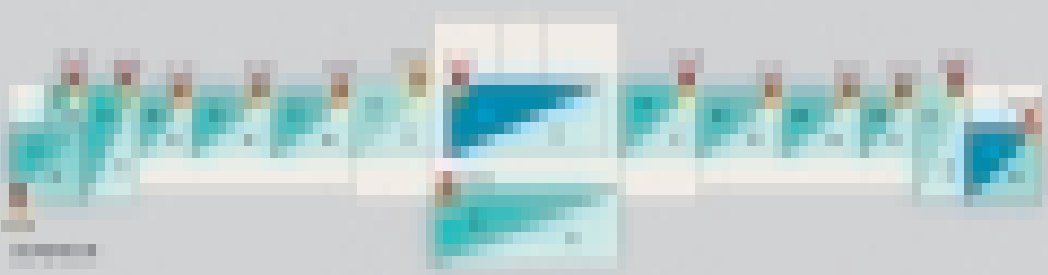
LEGENDA

 Microclima quente e úmido	 Microclima quente e seco
 Microclima quente e úmido	 Microclima quente e seco
 Microclima quente e úmido	 Microclima quente e seco
 Microclima quente e úmido	 Microclima quente e seco





1st floor



2nd floor



3rd floor



4th floor

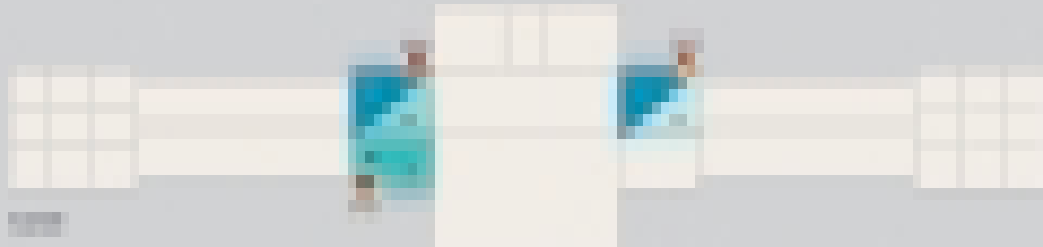
Legend of symbols for 3D visualization

Structural elements:
 - walls: 200 mm thick
 - columns: 300 mm x 300 mm
 - beams: 200 mm x 200 mm
 - slabs: 120 mm thick

Material properties:
 - concrete: C20/25
 - steel: S235
 - glass: 10 mm thick
 - air: 0.125 m thick



Project information



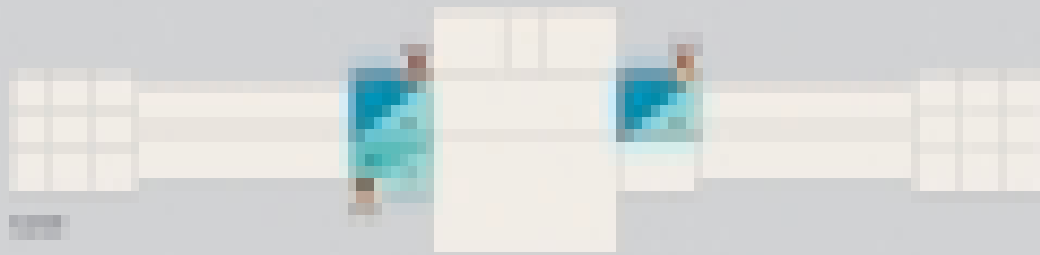
PERSONS & ROOMS ON EACH FLOOR

PERSONS ON EACH FLOOR
 (Color-coded by floor level)
 1st Floor: 10
 2nd Floor: 10
 3rd Floor: 10
 4th Floor: 10

ROOMS ON EACH FLOOR
 (Color-coded by room type)
 Conference Room: 1
 Meeting Room: 1
 Office: 1
 Reception: 1
 Storage: 1
 Break Room: 1
 Restroom: 1
 Elevator: 1
 Stairwell: 1
 Corridor: 1
 Lobby: 1



© 2023 [Company Name]



LEGENDA E DESCRIZIONE DEI COLORI E DELLE SIMBOLICHE

STRUTTURE:
 - MURALE: grigio
 - PAVIMENTO: beige
 - SOTTOPAVIMENTO: grigio
 - TAVOLELLI: grigio

STRUTTURE:
 - MURALE: grigio
 - PAVIMENTO: beige
 - SOTTOPAVIMENTO: grigio
 - TAVOLELLI: grigio



UNIVERSITÀ DEL TORINO



1990s



2000s



2010s



2020s

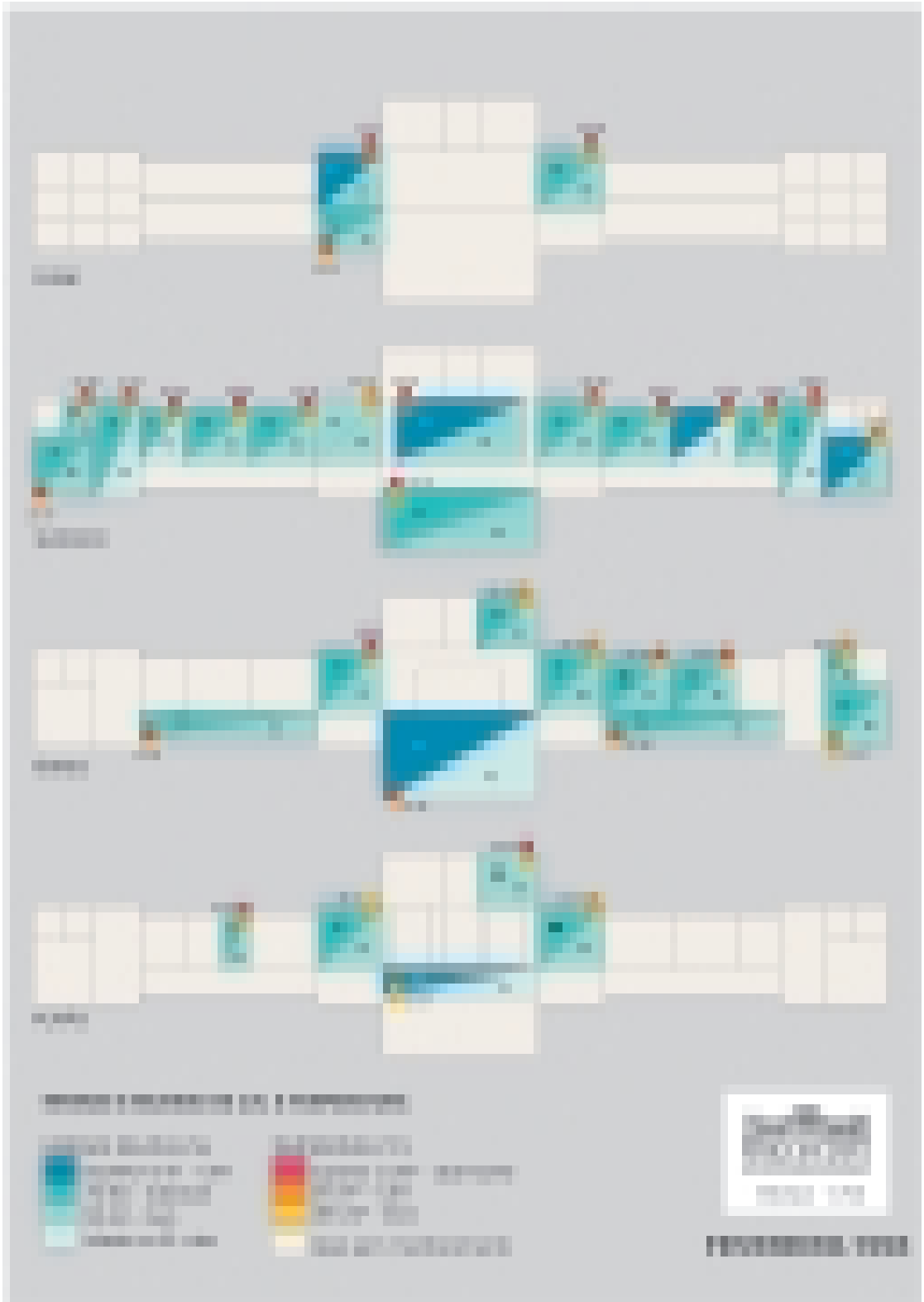
Legend: National Board of Trade/Trade

Percentage of
 1990-1994
 1995-1999
 2000-2004
 2005-2009

Percentage of
 2010-2014
 2015-2019
 2020-2024
 2025-2029



© 2023 National Board of Trade/Trade





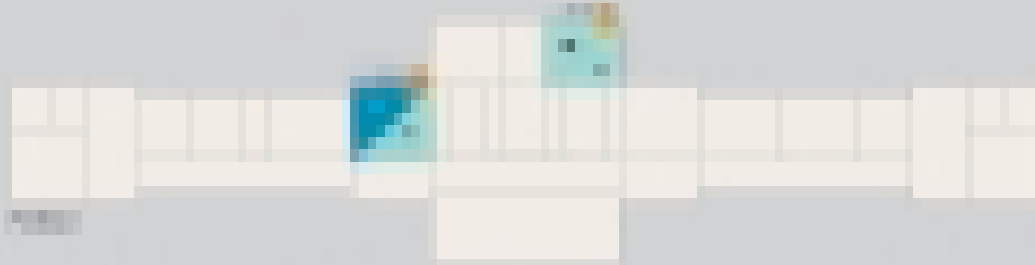
1999



2000



2001



2002

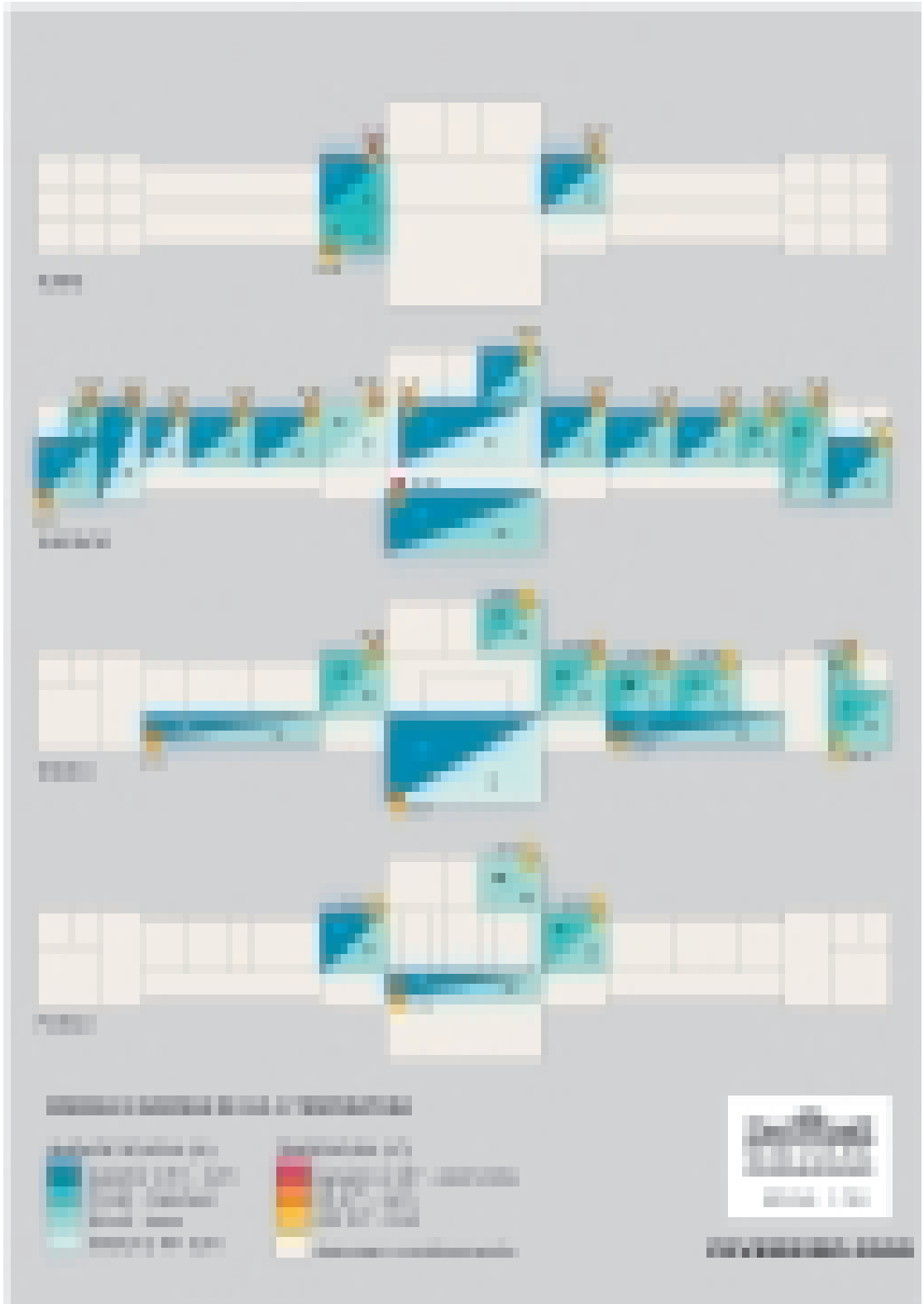
Legend: Percent of Population

- 0% (white)
- 1% - 2%
- 3% - 4%
- 5% - 6%
- 7% - 8%

- 9% - 10%
- 11% - 12%
- 13% - 14%
- 15% - 16%



AMERICAN STATISTICAL ASSOCIATION





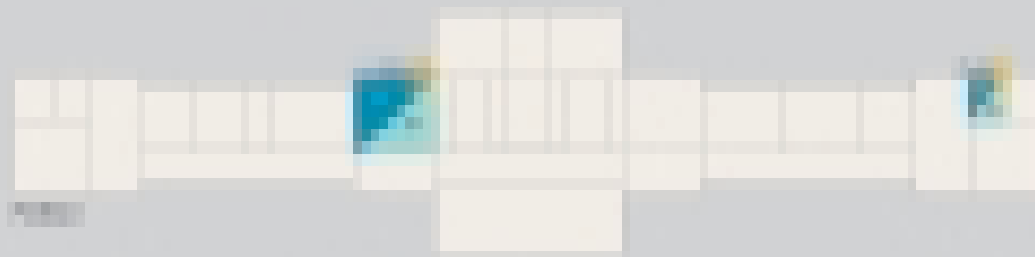
PLAN 1



PLAN 2



PLAN 3



PLAN 4

LEGENDA


 1.000 m² (10.764 m²)

 2.000 m² (21.528 m²)

 3.000 m² (32.292 m²)


 4.000 m² (43.056 m²)

 5.000 m² (53.820 m²)

 6.000 m² (64.584 m²)



2023-2024

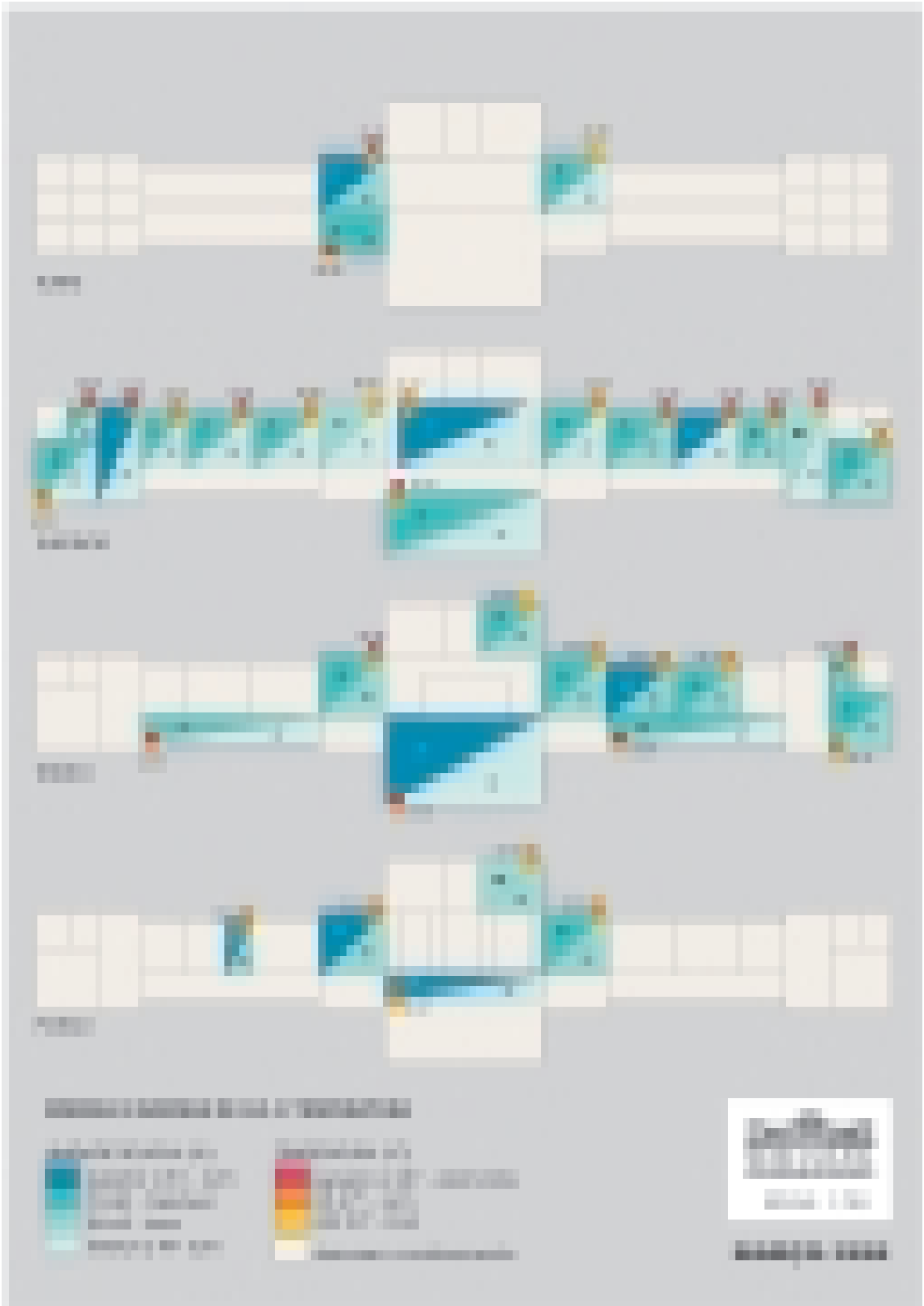




Figure 1

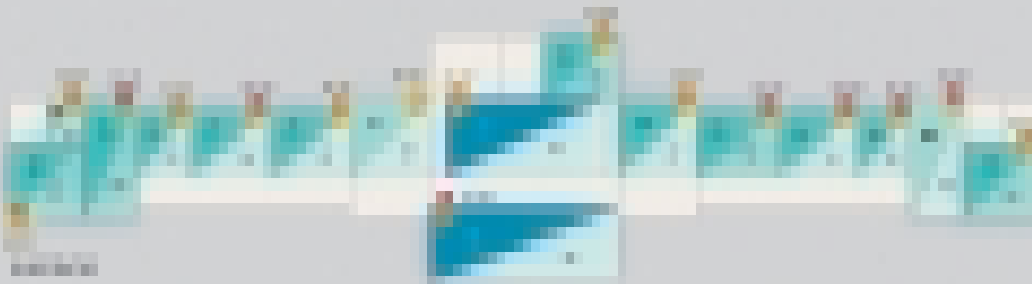


Figure 2



Figure 3



Figure 4

Legend for Allele Distribution Maps

Allele	Frequency Range	Color
L	0.000 - 0.005	Dark Blue
L	0.005 - 0.010	Medium Blue
L	0.010 - 0.015	Light Blue
L	0.015 - 0.020	Very Light Blue
M	0.000 - 0.005	Dark Red
M	0.005 - 0.010	Medium Red
M	0.010 - 0.015	Light Red
M	0.015 - 0.020	Very Light Red
N	0.000 - 0.005	Dark Yellow
N	0.005 - 0.010	Medium Yellow
N	0.010 - 0.015	Light Yellow
N	0.015 - 0.020	Very Light Yellow
O	0.000 - 0.005	Dark Green
O	0.005 - 0.010	Medium Green
O	0.010 - 0.015	Light Green
O	0.015 - 0.020	Very Light Green



© 2004 National Geographic Society



1st floor



2nd floor



3rd floor



4th floor

Legend of Accessibility Levels

- Accessible (Level 1)
- Accessible (Level 2)
- Accessible (Level 3)

- Accessible (Level 4)
- Accessible (Level 5)
- Accessible (Level 6)
- Not accessible



UNIVERSITY OF ZAGREB



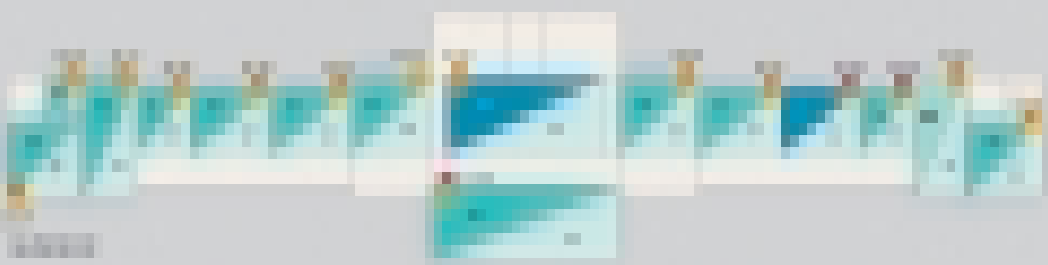
FIGURE 1: NETS OF A CUBE

NETS OF A CUBE:
 A net of a cube is a 2D shape that can be folded to form a cube. There are 11 different nets of a cube. Each net consists of 6 squares. The squares are arranged in a way that they can be folded to form a cube.

NETS OF A CUBE:
 A net of a cube is a 2D shape that can be folded to form a cube. There are 11 different nets of a cube. Each net consists of 6 squares. The squares are arranged in a way that they can be folded to form a cube.



QR CODE



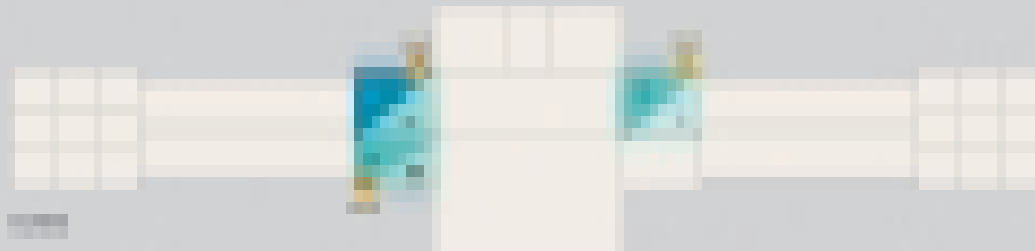
GENES & CULTURE OF U.S. IMMIGRANTS

ALLELE FREQUENCIES
 L: 0.40-0.50
 M: 0.30-0.40
 N: 0.20-0.30
 O: 0.10-0.20

ETHNICITY
 I: 0.10-0.20
 II: 0.20-0.30
 III: 0.30-0.40
 IV: 0.40-0.50
 V: 0.50-0.60
 VI: 0.60-0.70
 VII: 0.70-0.80
 VIII: 0.80-0.90
 IX: 0.90-1.00



GENES & CULTURE



1990s



2000s



2010s



2020s

Legend

■ 1990s cohort
■ 2000s cohort
■ 2010s cohort
■ 2020s cohort

■ 1990s cohort
■ 2000s cohort
■ 2010s cohort
■ 2020s cohort



2020s cohort

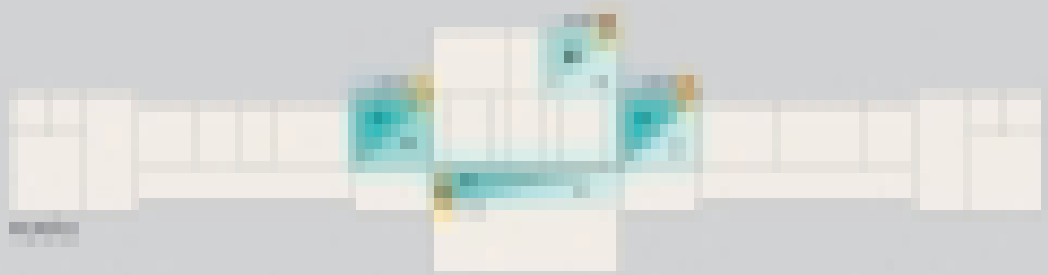
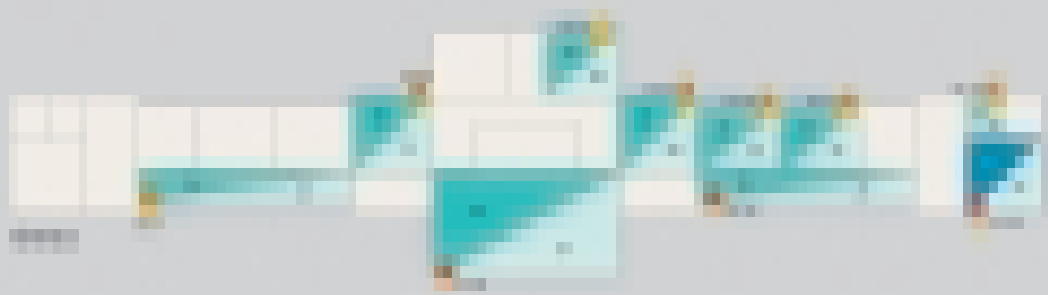


TABLE 1. FREQUENCIES OF A, L, M, O, AND A ALLELES

Allele	Frequency (%)
A	~45
L	~35
M	~10
O	~5
A	~5

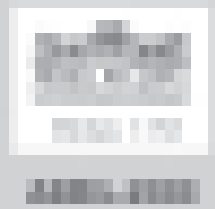




Figure 1

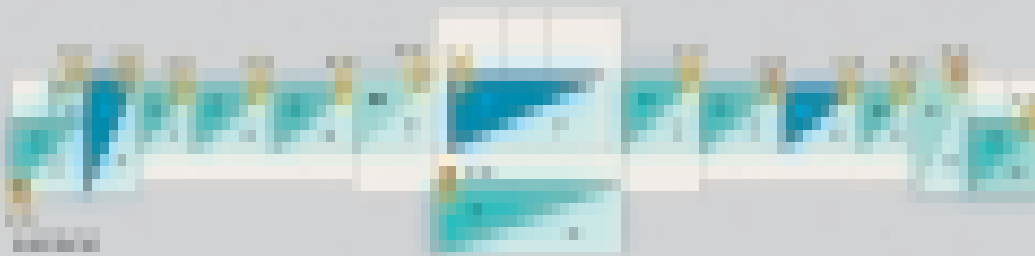


Figure 2

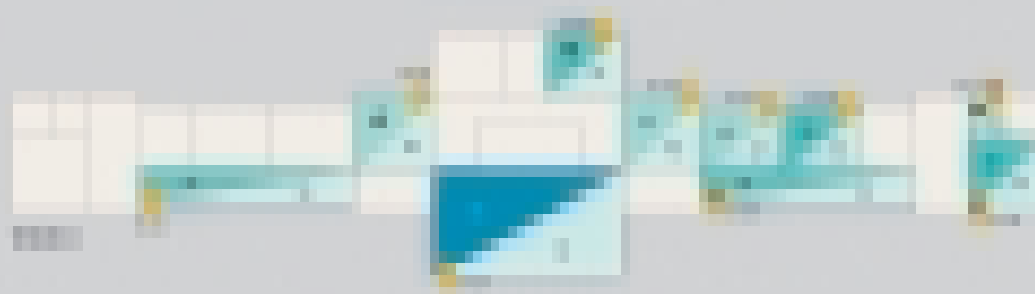


Figure 3

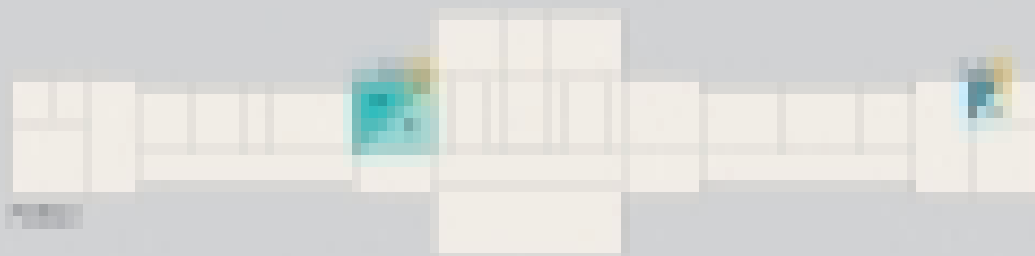


Figure 4

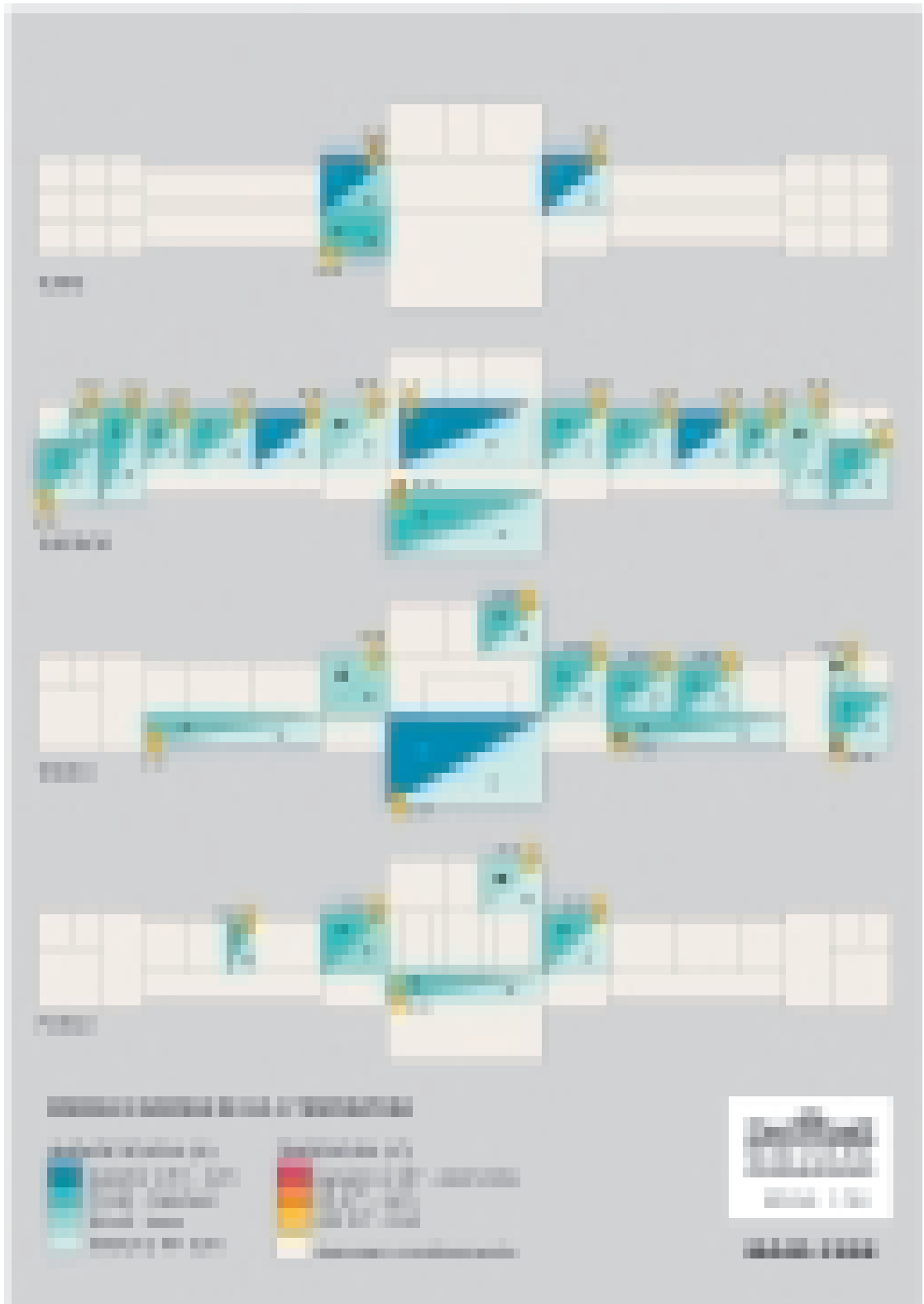
Legend for the Distribution of Alleles

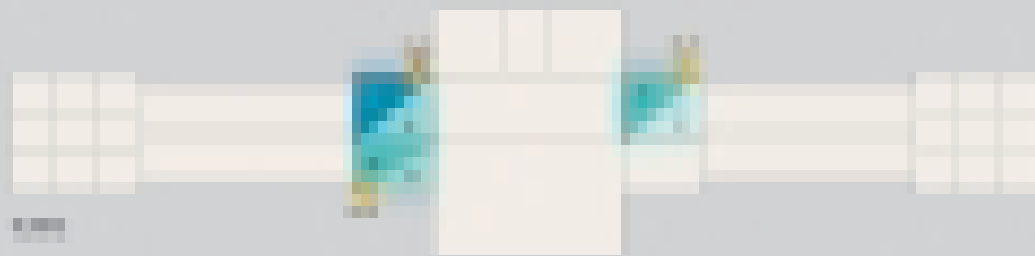
Allele frequency in
 range of 0.00 - 0.05
 range of 0.05 - 0.10
 range of 0.10 - 0.15
 range of 0.15 - 0.20

Allele frequency in
 range of 0.20 - 0.25
 range of 0.25 - 0.30
 range of 0.30 - 0.35
 range of 0.35 - 0.40
 range of 0.40 - 0.45



© 2007 National Geographic Society

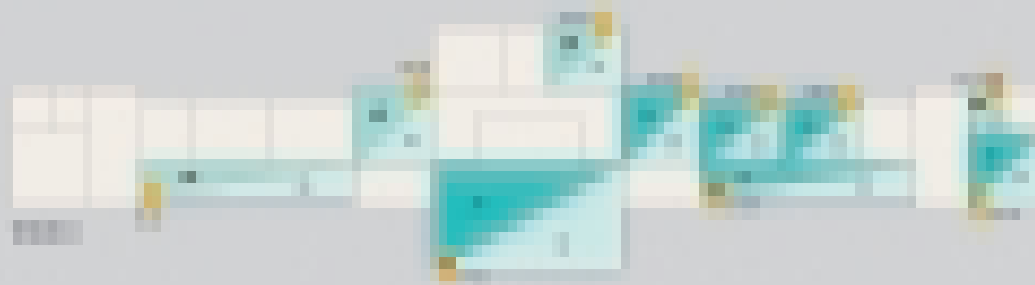




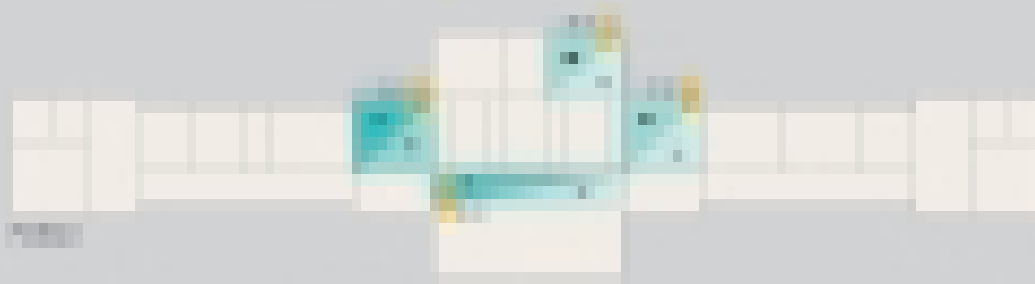
0.000



0.000



0.000



0.000

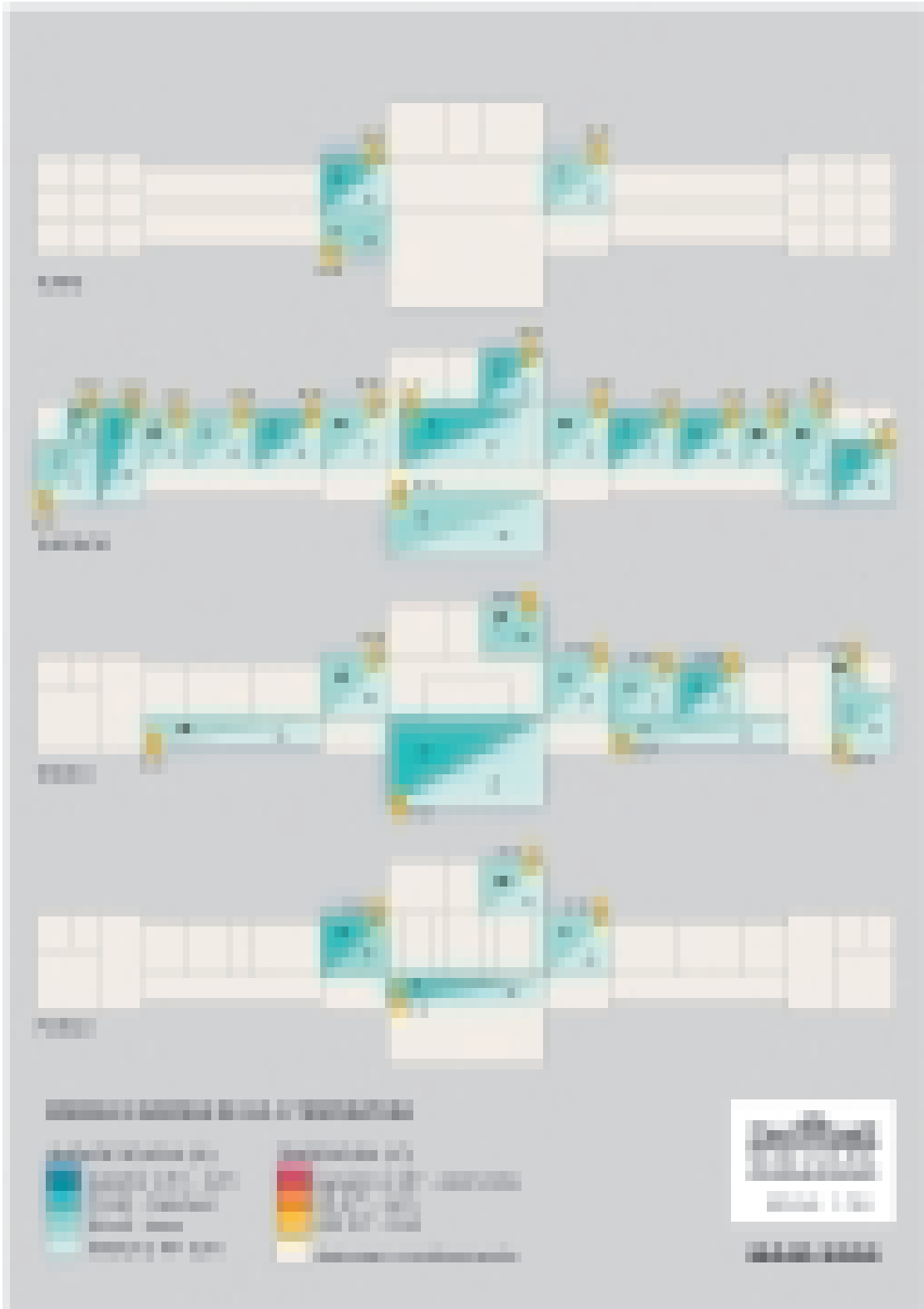
Legend for the floor plan diagrams

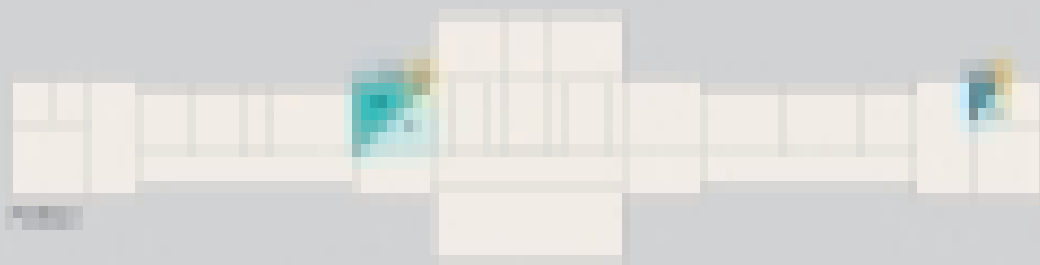
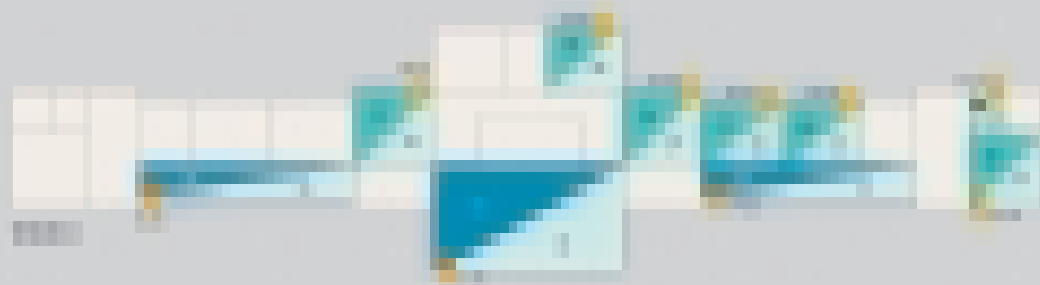
- Area 1** (Teal)
- Area 2** (Light Teal)
- Area 3** (Yellow)
- Area 4** (Pink)
- Area 5** (Light Yellow)

- Area 6** (Red)
- Area 7** (Orange)
- Area 8** (Light Yellow)
- Area 9** (Light Yellow)



0.000 - 0.000

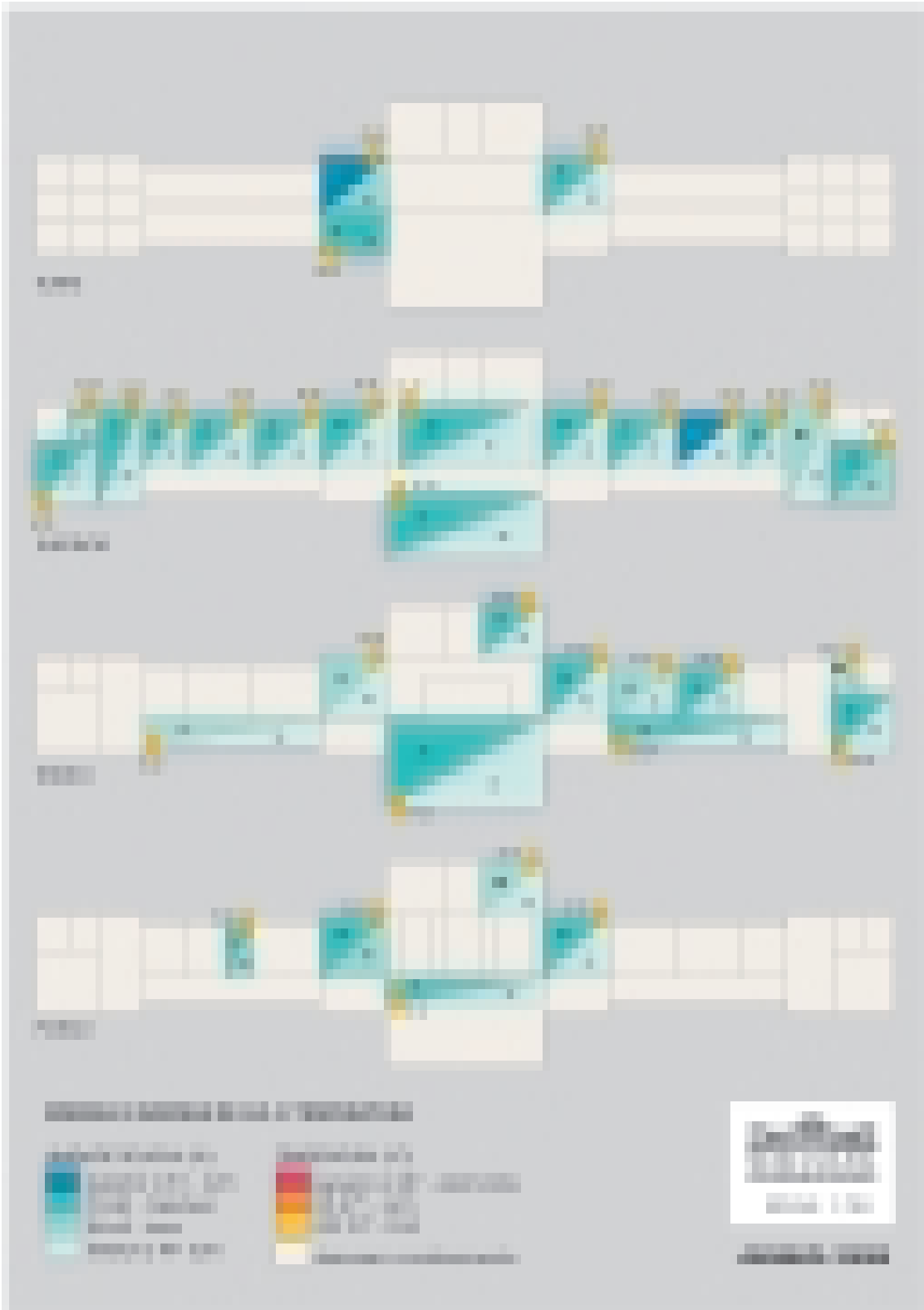




Legend: Percent of Allele in Population



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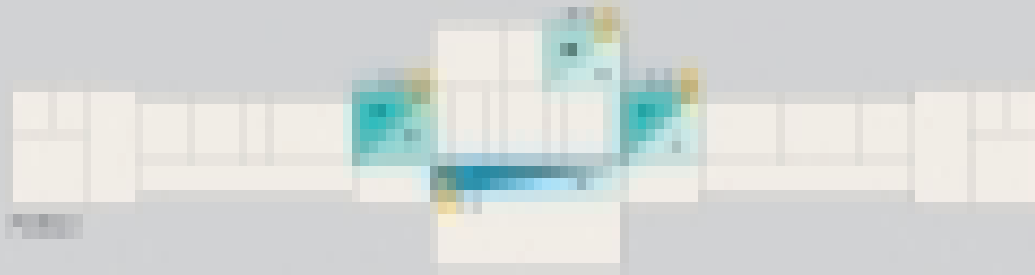
1990



2000



2010



2020

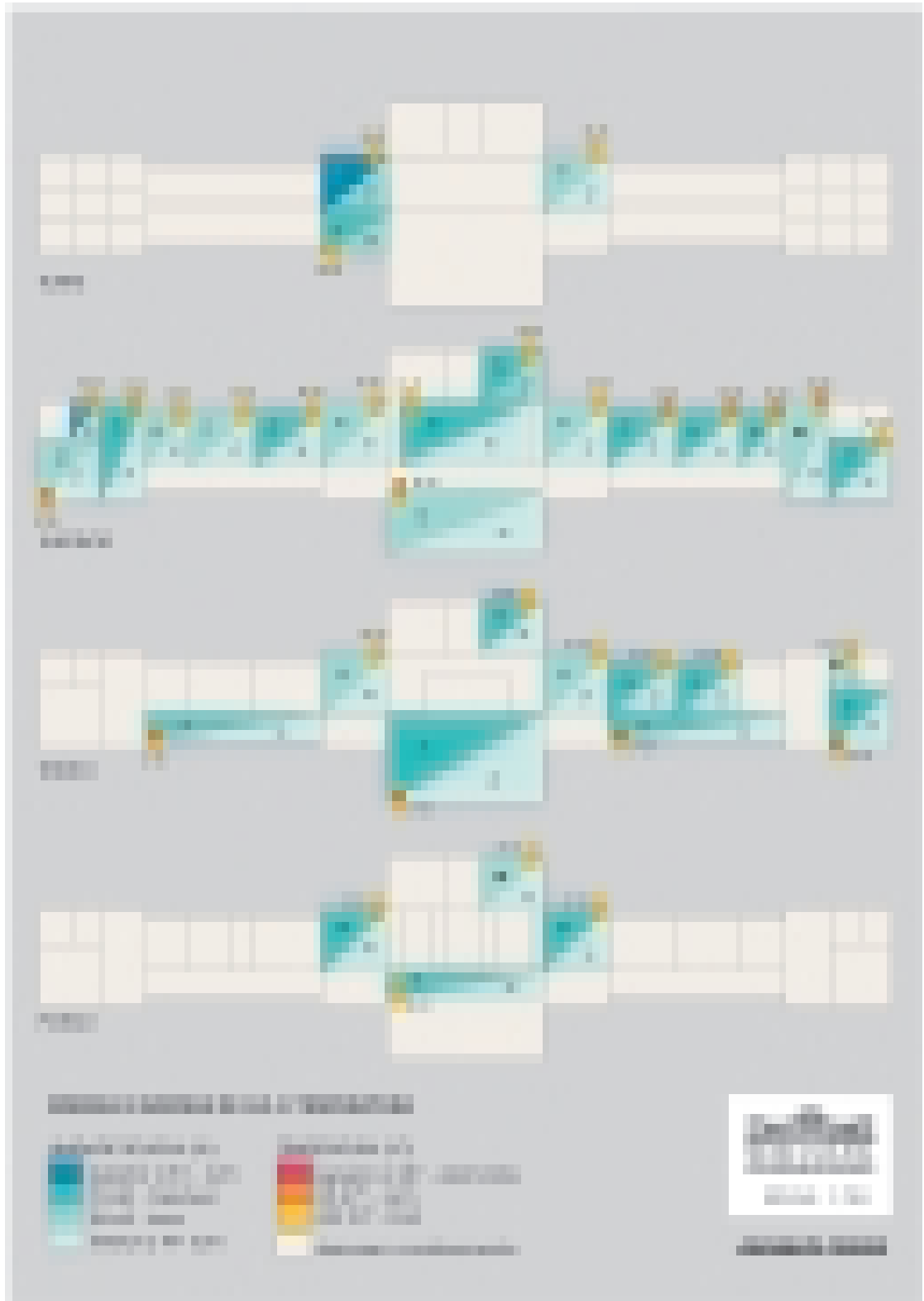
Legend: Percent of Population in 'Other' Category

Percentage of Population in 'Other' Category
 0% - 10%
 10% - 20%
 20% - 30%
 30% - 40%
 40% - 50%

Percentage of Population in 'Other' Category
 50% - 60%
 60% - 70%
 70% - 80%
 80% - 90%
 90% - 100%



2020 Census





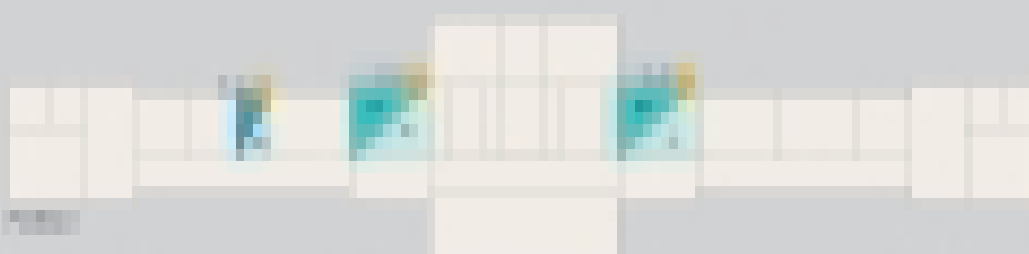
1990



2000

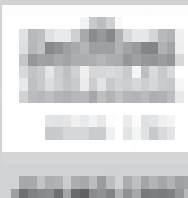


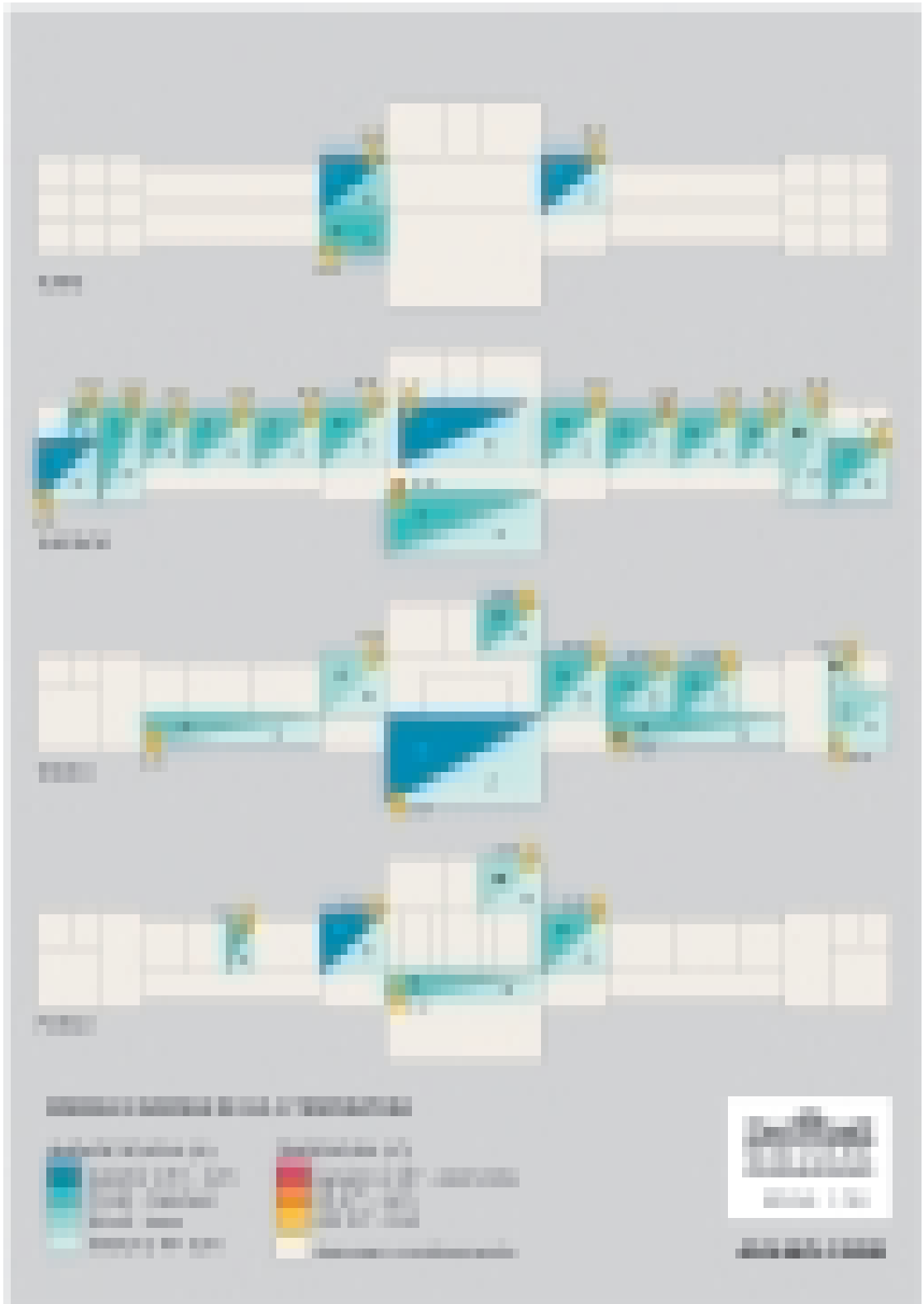
2010



2020

Legend for the maps above:



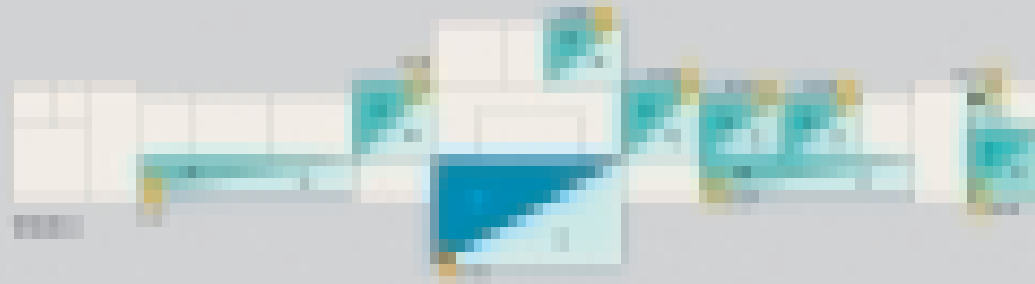




1990



2000



2010



2020

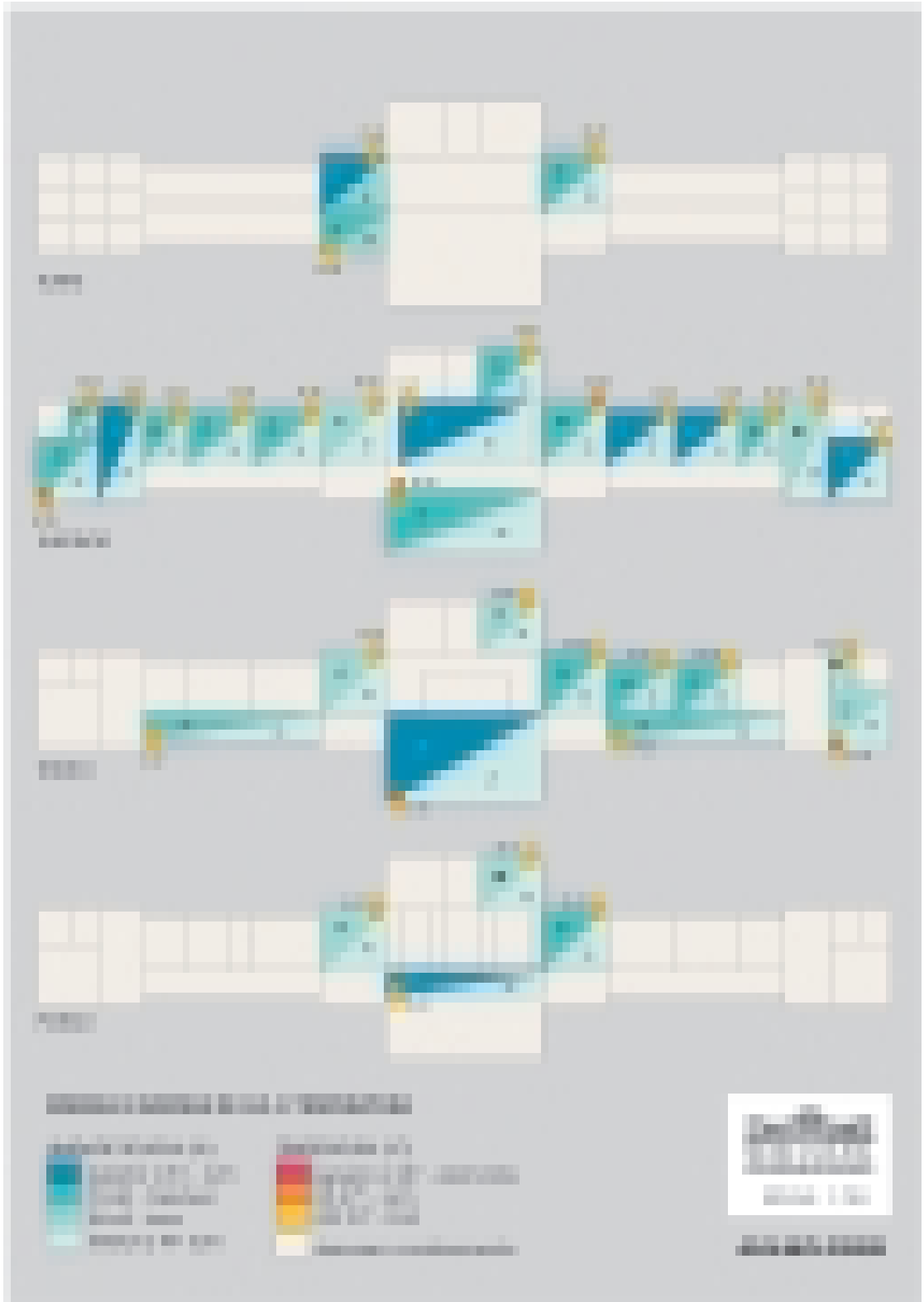
Legend: Percent of Population in 'Other' Category

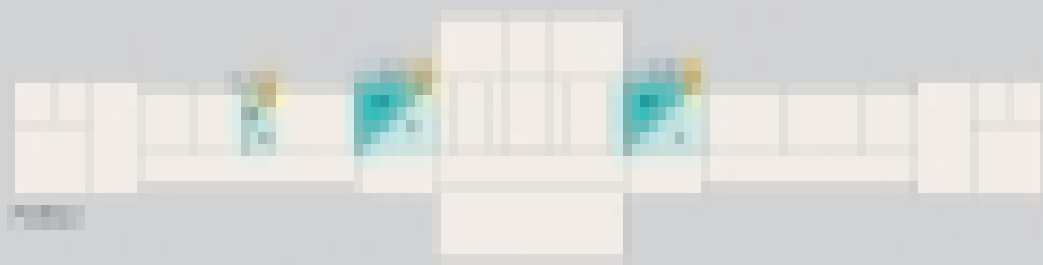
0% - 10%
 10% - 20%
 20% - 30%
 30% - 40%

40% - 50%
 50% - 60%
 60% - 70%
 70% - 80%



AMERICAN PSYCHOLOGICAL ASSOCIATION





Legend: National Level of Urbanization

Very High (Dark Blue)
 50% or more of population in urban areas
 2000-2020

High (Red)
 25% or more of population in urban areas
 2000-2020

Medium (Orange)
 10% or more of population in urban areas
 2000-2020

Low (Yellow)
 Less than 10% of population in urban areas
 2000-2020



© 2020 Urban Institute



1990s



2000s



2010s

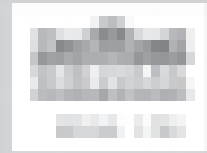


2020s

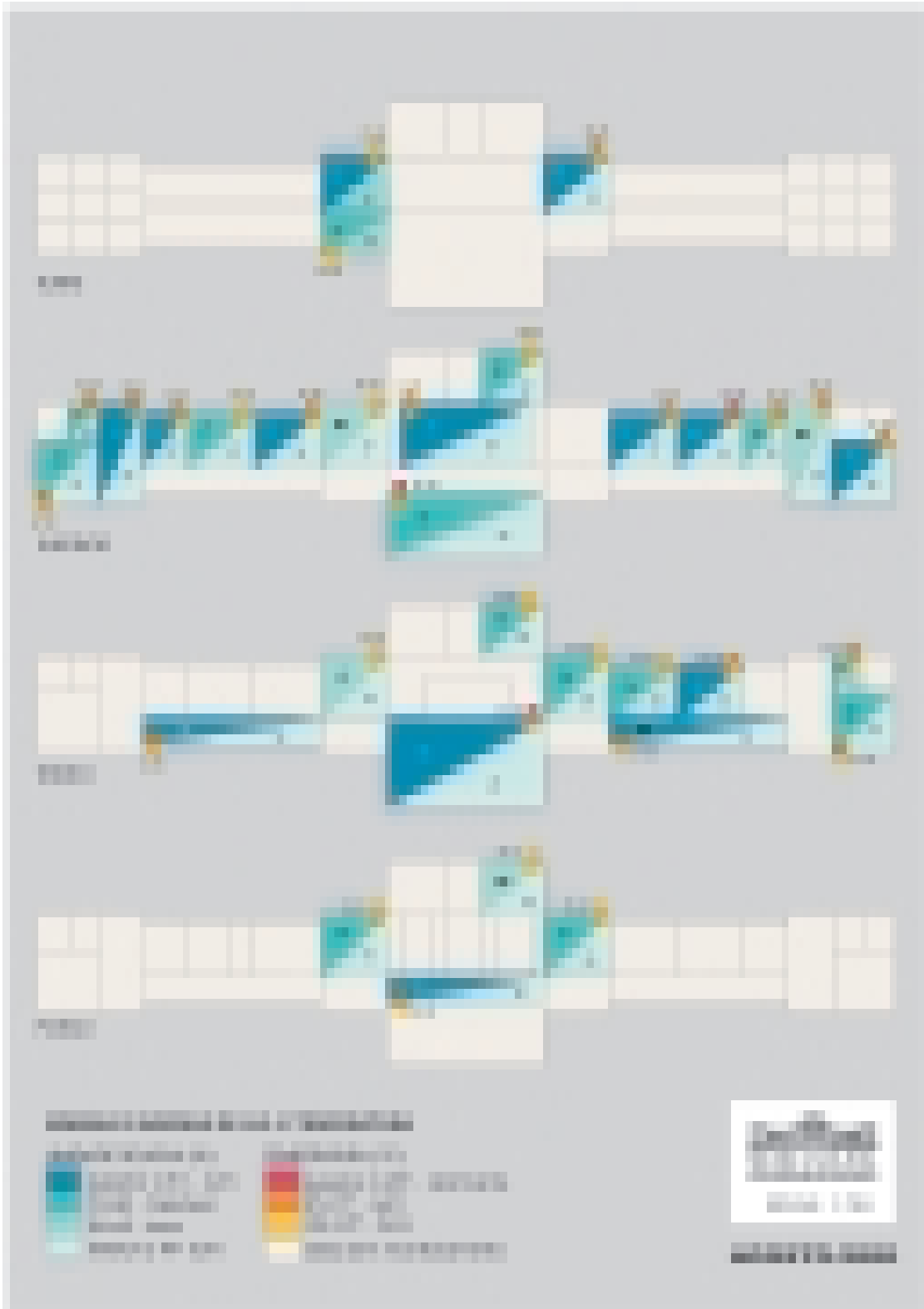
Legend: Cohort of Birth by Decade

- 1990s
- 2000s
- 2010s
- 2020s

- 1950s
- 1960s
- 1970s
- 1980s
- Unpopulated

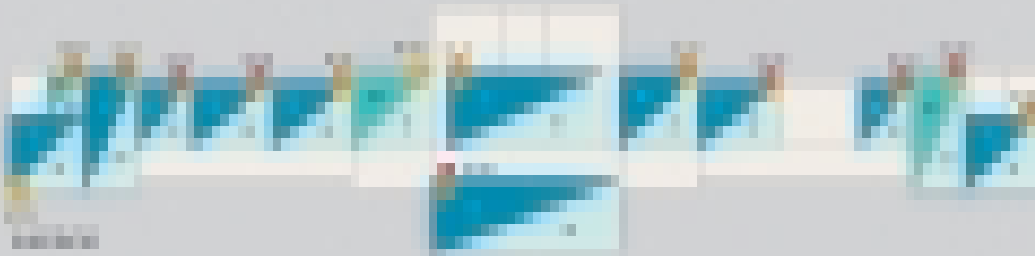


© 2023 CGHP





0.000



0.000






0.000



0.000

Legend of Symbols and Colors

-  **Structure of the building**
-  **Structure of the building**
-  **Structure of the building**

-  **Structure of the building**
-  **Structure of the building**
-  **Structure of the building**
-  **Structure of the building**



0.000.000.000



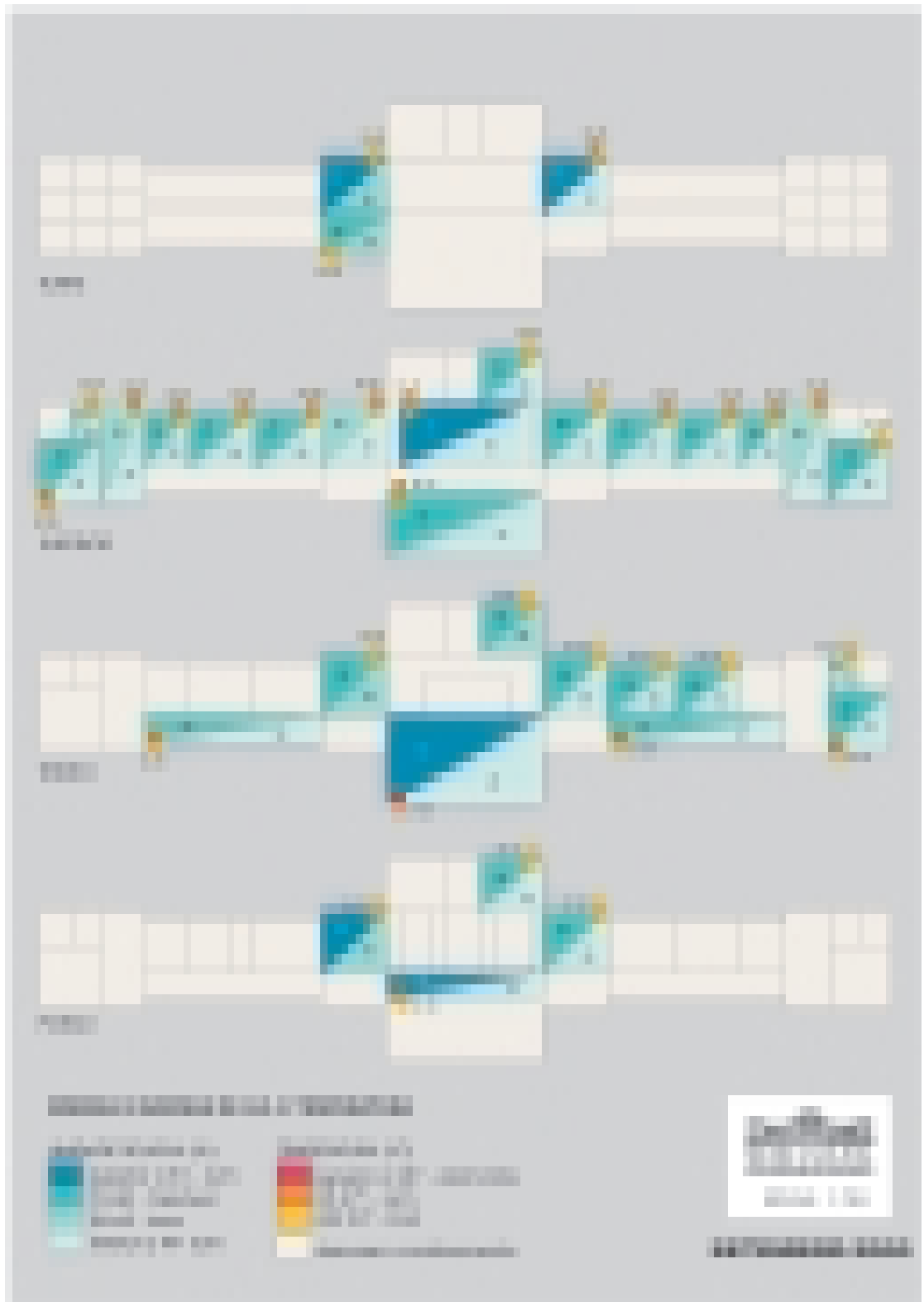
Species' Natural Range of Distribution

Abundance in
 Large (100,000+)
 Small (10,000-99,999)
 Rare (1,000-9,999)
 Very Rare (1-999)

Abundance of
 Large (100,000+)
 Small (10,000-99,999)
 Rare (1,000-9,999)
 Very Rare (1-999)

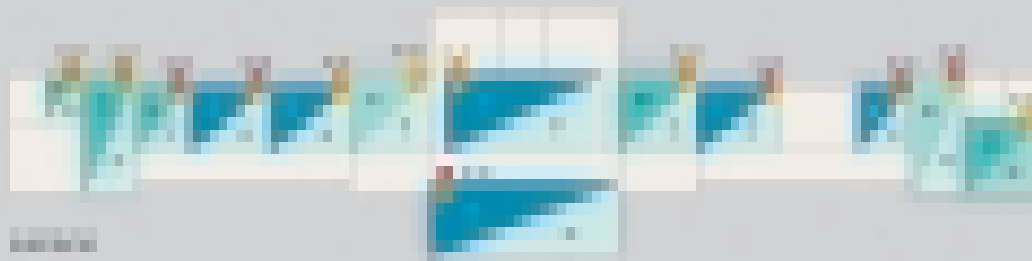


© 2000 U.S. Fish and Wildlife Service





1990s



1980s



1970s



1960s

Legend: Cohort Birth or Transition



© 2000-2007 NLSY



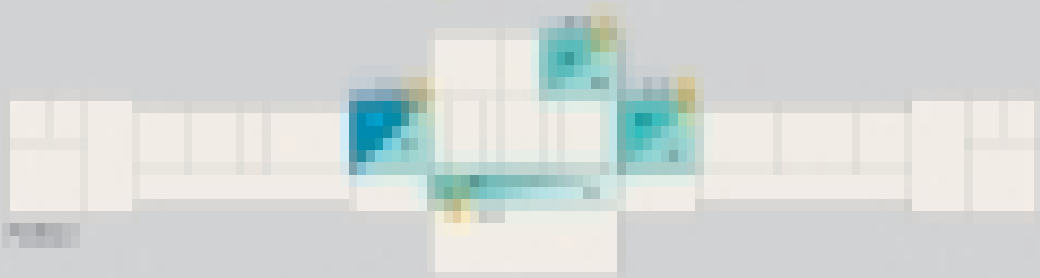
L



I



J



K

Legend for the maps of the Iberian Peninsula

Relative frequency (%)
 100% (dark blue)
 75% (medium blue)
 50% (light blue)
 25% (very light blue)

Relative frequency (%)
 100% (dark red)
 75% (medium red)
 50% (light red)
 25% (very light red)
 absent (white)



ISSN 1136-2298



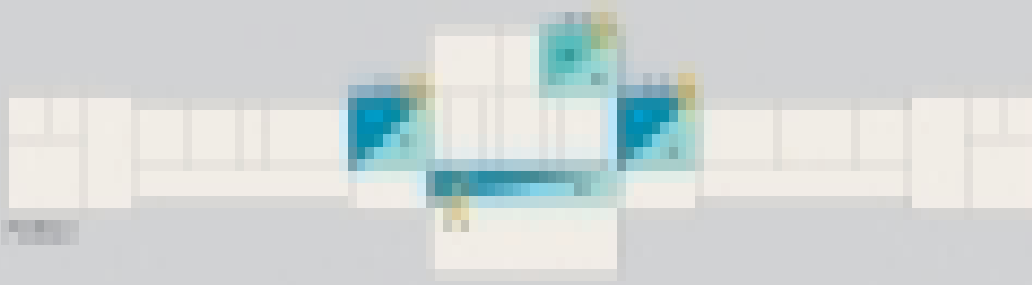
1990s



2000s



2010s



2020s

Legend: Density of Cohort



STATISTICS FROM THE BUREAU OF ECONOMIC ANALYSIS



FIGURE 1



FIGURE 2



FIGURE 3

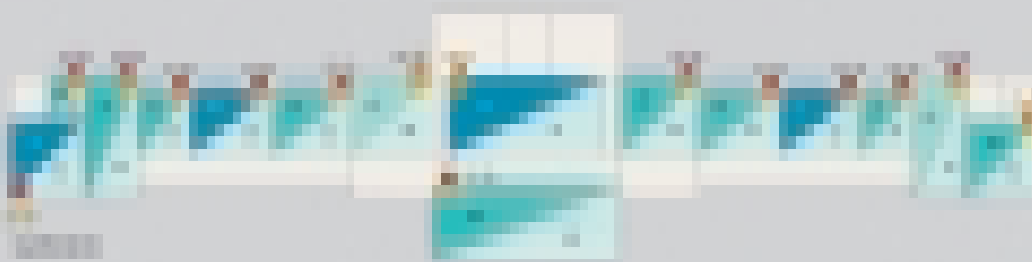


FIGURE 4

Allele Frequency of the ABO Blood Group



AMERICAN SOCIETY OF HUMAN GENETICS



GRUPOS DIALECTALES DEL NOROCCIDENTAL

GRUPO GALIÉSICO
 - gallego do norte
 - gallego do centro
 - gallego do sur
 - asturleonés

GRUPO OCCIDENTAL
 - castelán do norte
 - castelán do centro
 - castelán do sur
 - leonés do norte



INSTITUTO DE ESTUDIOS GALEGOS

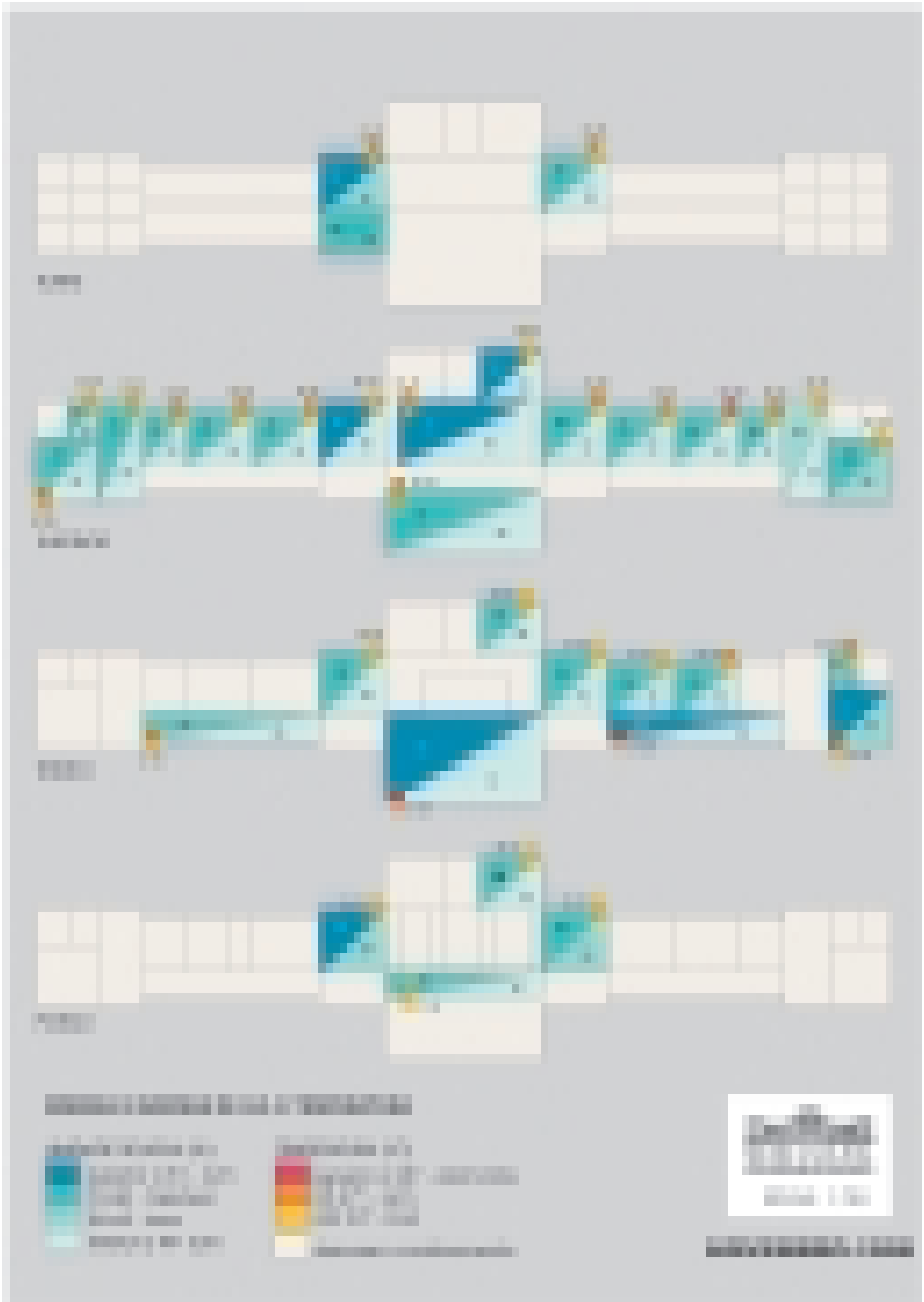




Figure 1



Figure 2

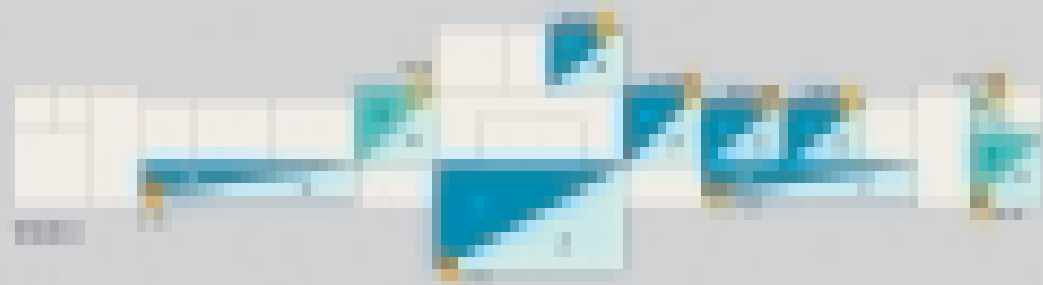


Figure 3



Figure 4

Legend for Allele Frequency Maps

- | | |
|---|---|
| <ul style="list-style-type: none"> ■ 100% (A) ■ 90% (A) ■ 80% (A) ■ 70% (A) | <ul style="list-style-type: none"> ■ 100% (G) ■ 90% (G) ■ 80% (G) ■ 70% (G) |
|---|---|



www.genome.gov



Fig. 1



Fig. 2



Fig. 3

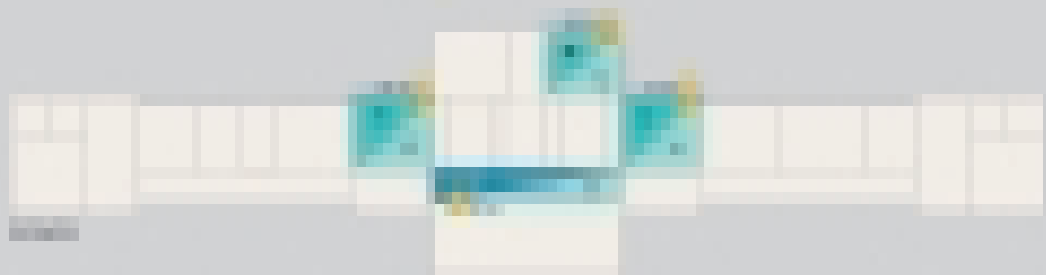


Fig. 4

Legend for the maps above

CLADE C
 Yersinia pestis
 clade C
 (dark blue)

CLADE D
 Yersinia pestis
 clade D
 (light blue)



Source: [unreadable]

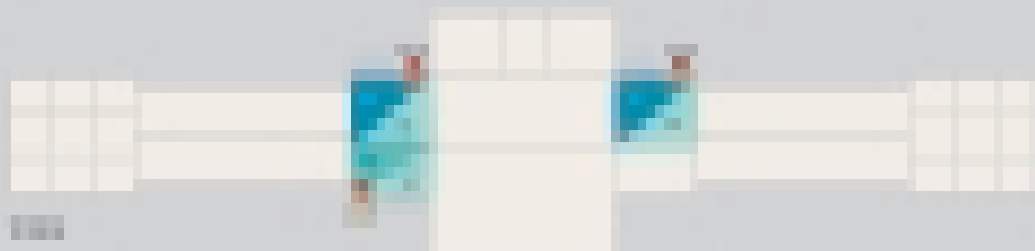


Figure 1

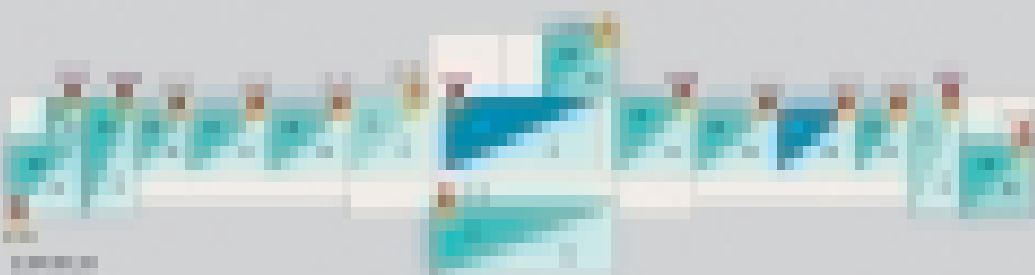


Figure 2



Figure 3



Figure 4

Legend for Figure 1 and Figure 2

- Entrance
- Reception
- Waiting Area
- Office
- Meeting Room

- Reception
- Waiting Area
- Office
- Meeting Room
- Reception



UNIVERSITY OF QUEENSLAND



L



I



J



K

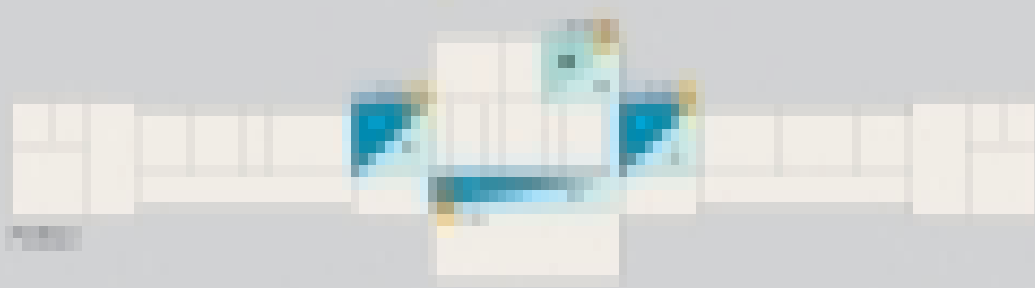
Legend for the maps of the Iberian Peninsula

Frequency of L
 0.00 - 0.05
 0.05 - 0.10
 0.10 - 0.15
 0.15 - 0.20

Frequency of I
 0.00 - 0.05
 0.05 - 0.10
 0.10 - 0.15
 0.15 - 0.20



UNIVERSIDAD DE GRANADA



Legend: National Level of Vulnerability

- Very High (100-120)
- High (80-100)
- Moderate (60-80)
- Low (40-60)
- Very Low (20-40)
- Unavailable

- Very High (100-120)
- High (80-100)
- Moderate (60-80)
- Low (40-60)
- Very Low (20-40)
- Unavailable



© 2002 FEMA



Legend: Allele Frequency by State

Allele L (L)
 0.00 - 0.10
 0.10 - 0.20
 0.20 - 0.30
 0.30 - 0.40

Allele M (M)
 0.00 - 0.10
 0.10 - 0.20
 0.20 - 0.30
 0.30 - 0.40



AMERICAN SOCIETY OF HUMAN GENETICS

Influência da radiação de luz sobre acervos museológicos

Norma Ciaflone Cassares, Yara Lúgia Mello Moreira

O texto analisa a ação e os efeitos da radiação de luz sobre acervo museológico. Considera-se a luz como fator de dano produzindo alterações físicas e químicas sobre a estrutura molecular dos materiais dos objetos, que ocorrem sempre em conjunto com as condições ambientais e não de forma isolada. Aponta critérios técnicos, referências, relativos aos níveis de iluminação e ao tempo de exposição dos objetos.

PALAVRAS-CHAVE: Conservação. Luz. Museus. Acervos.
Anais do Museu Paulista. São Paulo. N. Sér. v. 8/9. p.177-192 (2000-2001). Editado em 2003.

Influence of the light radiation on the museum's collections

Norma Ciaflone Cassares, Yara Lúgia Mello Moreira

The text analyses the actions and effects of light on the museum's collections. Light is considered of harmful effects leading to physical and chemical changes on the molecular structure of the materials of the objects, which always happen together with the environmental conditions rather than alone. It points out towards technical criteria, references, related to the levels of light and the exposure time of the objects.

KEYWORDS: Conservation. Light. Museums. Collections.
Anais do Museu Paulista. São Paulo. N. Sér. v. 8/9. p.177-192 (2000-2001). Editado em 2003.

Conservação de coleções em ambientes tropicais: coletando e comunicando dados do Museu Paulista/USP, Brasil (1997-2000)

Teresa Cristina Toledo de Paula

As atividades de monitoramento e controle ambiental nas regiões temperadas originaram os parâmetros e práticas hoje estabelecidos mundialmente para a conservação de acervos; tais parâmetros e práticas, entretanto, podem não ser adequados à conservação de acervos em regiões tropicais. Este trabalho apresenta uma pesquisa sobre as condições ambientais em museu de região tropical, o Museu Paulista da Universidade de São Paulo. Trinta e três salas, *halls* e corredores nos quatro pavimentos do Museu Paulista têm sido monitorados por termo-higrógrafos desde 1997. Grandes variações na UR (30-98%) e temperatura (12-35 graus C) foram registradas. O efeito nocivo sobre as coleções, esperável em situações climáticas tão inconstantes, não foi encontrado onde há ventilação apropriada. O monitoramento possibilitou, também, a identificação de áreas de alto risco, onde ações localizadas podem ser introduzidas de forma econômica. Desenvolver um modo efetivo de comunicar essas informações ambientais à equipe do museu mostrou-se vital à implementação de medidas sustentáveis de monitoramento e controle climáticos.

PALAVRAS-CHAVE: Clima em Museu. Clima Tropical. Clima Brasileiro. Museus Brasileiros. Monitoramento Ambiental.
Anais do Museu Paulista. São Paulo. N. Sér. v. 8/9. p.193-278 (2000-2001). Editado em 2003.

Caring for Collections in Tropical Environments: Collecting and Communicating Data at Museu Paulista/USP, Brasil (1997-2000)

Teresa Cristina Toledo de Paula

The monitoring and environment control activities in the temperate regions have originated the parameters and the actions now established, world widely, for the conservation of the collections; such parameters and the actions, nevertheless, may not be adequate for the conservation of the collections in tropical regions. This work presents a research about the environmental conditions in a museum in a tropical region, the Museum of the University of São Paulo (*Museu Paulista da Universidade de São Paulo*). Thirty-three rooms, halls and corridors in the four of the museums floors have been monitored with thermo hygographs since 1997. Huge variations in the UR (30-98%) and temperature (12-35 degrees C) have been registered. The harmful effect on the collections, expected in so changeable climatic situations, has not been found where there is proper ventilation. The monitoring has also enabled the identification of the high-risk areas, where local actions can be introduced in an economical way. Developing an effective way of passing ahead this environment information to the museum's staff has been proved vital for the implementation of sustainable measures of monitoring and climatic control.

KEYWORDS: Climate in a Museum. Tropical Climate. Brazilian Climate. Brazilian Museums. Environmental Monitoring.
Anais do Museu Paulista. São Paulo. N. Sér. v. 8/9. p.193-278 (2000-2001). Editado em 2003.