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ECOSYSTEM APPROACH TO DESIGNING AND DEVELOPING PUBLIC LIBRARY SERVICES

Prof. UŚ dr hab. Katarzyna Materska
(University of Silesia, Poland)

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PRESENTATION PLAN

- Library metaphors and paradigms
- Ecosystems
 - the library as ecosystem
 - the libraries ecosystem
 - the library/libraries in different ecosystems
- Sustainability
 - sustainability in LIS
 - library services and sustainability
- Recommendations for design and development of public library services

LIBRARY PARADIGMS/ PERSPECTIVES

The modern discourses of library and information science have introduced many perspectives focusing on:

- **documents** (bibliographical perspective)
- **users** ("user oriented" and "cognitive approaches"),
- **technology** (systems oriented approaches, big data paradigm),
- **services** (service paradigm)
- **the library as institution** ("the institutional approach")
- **management** (library managers perspectives)
- **learning activities** (educational paradigm)
- **culture transfer** (cultural paradigm)
- ...
- **sustainability, ecosystems** (ecological approach)

LIBRARY METAPHORS

- Library as **Place** (public, private, a third place, safe, neutral ...)
- Library as **Collection** (as storehouse),
- Library as **Access** (direct, mediated, hybrid, digital ..)
- Library as **Services** (interactive learning centre)...
- Library as **Network** (knowledge network, services network, library as a node)
- Library as **Conversation** (network of conversations, build stronger relationships with users),
- Library as **Laboratory / LAB** (new media, creativity)
- Library as **Gate** to knowledge ...
- Library as **Community** (community of users, heart of the community)
- ...
- **Library as Ecosystem**

ECOSYSTEMS

- An ecosystem in the natural world is the set of relations between living organisms (species) and their surrounding non-living environment.
- An ecosystem is a system whose members **benefit from each other's participation** via **symbiotic relationships (positive-sum relationships)**.
(EU: Towards interoperability for European public services, 2010)
- An ecosystem is made up of all the organisms that **share the same habitat** or platform and keep interdependency of mutualism and co-evolution through interaction. To remain the ecosystem balanced and stable, an effective feedback system is necessary to aware and **response to any change in environment** and dependence.
(Ju & Shen, 2015. p. 333)
- An ecosystem can be described as a network or group that is **complex in nature** where all parts interact within a specific, interconnected, environmental context.

WHY ECOSYSTEMS ARE IMPORTANT?

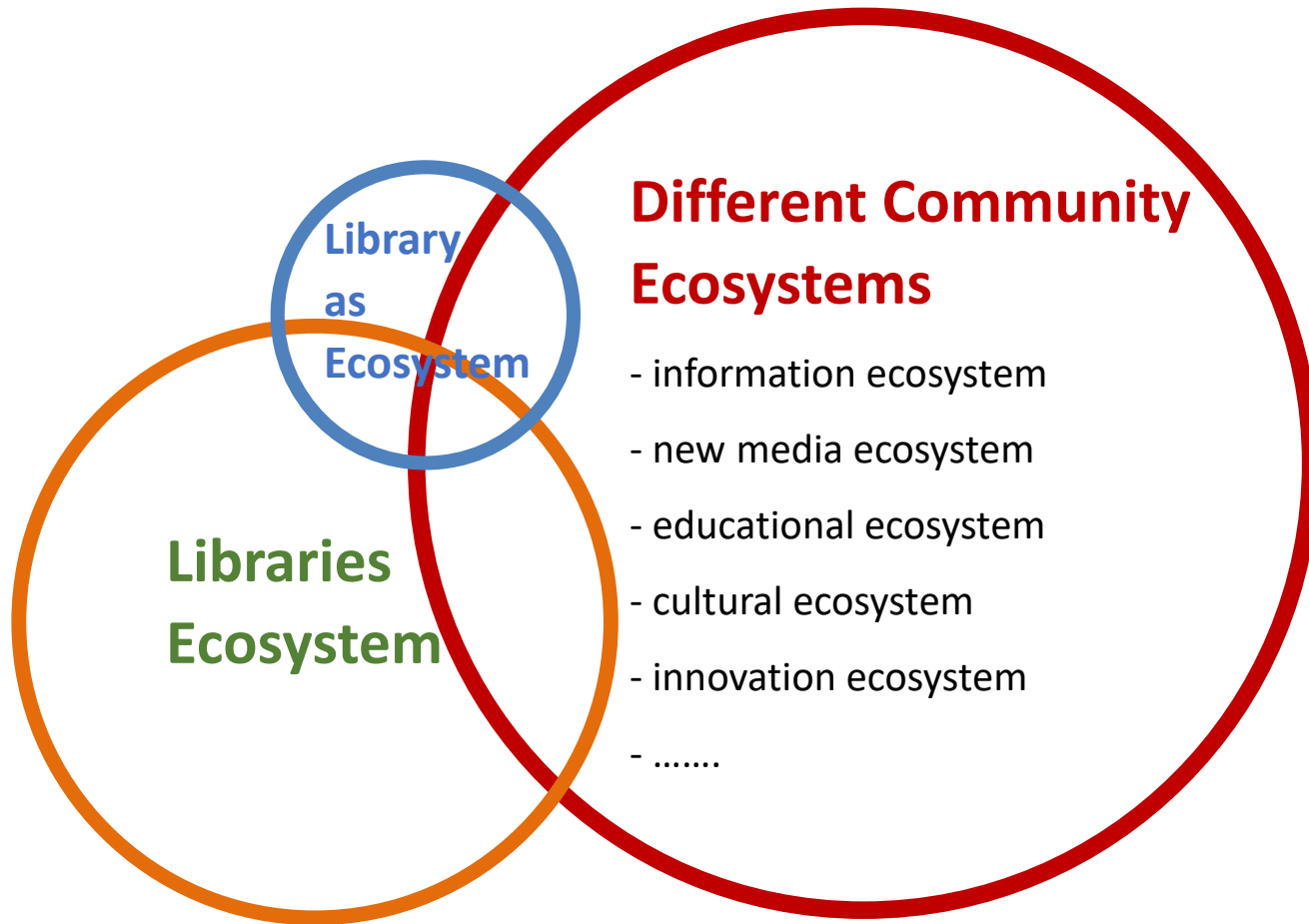
- **WE LIVE IN ECOSYSTEMS!**
- **(...) ECOSYSTEMS AND COMPLEXITY HAVE BECOME THE NATURE OF THE CONTEMPORARY WORLD.**

OECD. Centre for Educational Research and Innovation (2017).

DIFFERENT ECOSYSTEMS

- **Information/** knowledge ecosystem, disinformation ecosystem,
- **learning** ecosystems,
- **social** ecosystem, socio-ecological ecosystem,
- **cultural** ecosystem,
- **consumer** ecosystem,
- **searching** ecosystem,
- **innovation** ecosystem,
- **digital** ecosystem,
- **digital public services** ecosystem,
- **new media** ecosystem,
-
- **LIBRARY ECOSYSTEM**

LIBRARIES AND ECOSYSTEMS



THE LIBRARY AS ECOSYSTEM

- a “**biological organization**” in which multiple species must interact, both with one another and with their environment” (...). The library is home to multiple species”;
(Walter, 2008, p. 28)
- an **attractive habitat**;
- a **growing organism**” - as a component part of a large ecosystem it should have capability to adapt and response to environmental change and change with the times.

THE LIBRARY AS ECOSYSTEM

- The library as ecosystem contains many dependent actors, including readers, user service institutions, publishers, vendors, local authorities, policy makers etc., that formulate a complete value chain of information/ knowledge / educational ... services in which the library acts as a central coordinator.
- Every element in the library ecosystem struggles to adapt to environmental changes.

LIBRARIANS ARE A KEYSTONE SPECIES

The notion of the “keystone species” is taken from biological ecology and centers on the idea that some species are more critical to the functioning of the ecology than others, because of the special roles they play. In the information/ knowledge society, librarians are a keystone species.

(Nardi, 1998)

Nardi likens librarians to a 'keystone species' — serving as protectors of diversity in the information community.

Ecosystem participants work together to co-create the future and drive changes far beyond the scope of what any one organization or person could do alone.

LIBRARY/LIBRARIES ECOSYSTEM

- A library ecosystem is the *interconnected network of all types of libraries, library workers, volunteers, and associations that provide and facilitate library services for community members; families; K-20 learners; college and university communities; local, state and federal legislatures and government offices; businesses; nonprofits; and other organizations with specific information needs.*
- A patron of one library is the potential patron of any other library at a different time of life or location. *No library exists independent of the library ecosystem.* When we stand together in mutual support using common messaging themes that demonstrate this interconnectedness, every library is stronger.

(ALA Ecosystem Initiative Website)

No library is an island! - the first rule of the ecological approach

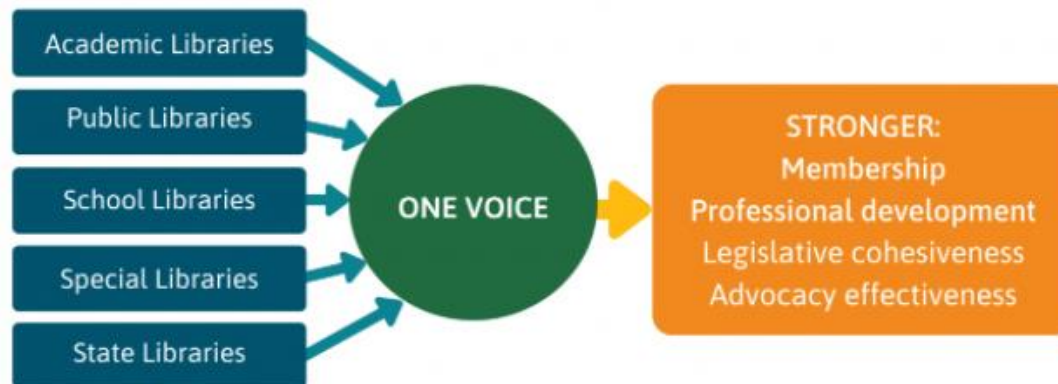
ONE VOICE:

Building a Strong Library Ecosystem



The State Ecosystem Task Force of the Committee on Library Advocacy (COLA) was created to help build strong coalitions between associations and library organizations at the state level, as well as stronger relationships with ALA.

A library ecosystem is the interconnected network of all types of libraries, library workers, volunteers, and associations that provide and facilitate library services for community members; families; K-20 learners; college and university communities; local, state and federal legislatures and government offices; businesses; nonprofits; and other organizations with specific information needs.



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<https://www.ala.org/advocacy/state-ecosystem-initiative>

„NEW” LIBRARY ECOSYSTEM CO-CREATORS

- “Libraries are not about books, they’re about people,”

(Skye Patrick, Librarian of the Year for 2019),

EXAMPLES:

- Digital natives, social media users, information/knowledge creators, entrepreneurial learners, ...
- Library users have voracious appetite for products and services that they perceive improve their quality of life.
- Users are jumping between many information ecosystems and mix and match what they discover.
- People are more nomadic (a mobile population).
- 15 percent of the world’s population has some kind of disability (WHO Report). For libraries, this indicates increasing the number of people with disabilities using buildings, spaces, and services.
- ...
- **"Nothing About Us Without Us"** - no policy should be decided by any representative without the full and direct participation of members of the group(s) affected by that policy.

LIBRARIES IN WIN-WIN COMMUNITY ECOSYSTEMS

- **Public libraries** are **one key part of the ecosystem** of services that aims **to advance individual and community success**.
- **Stakeholders:** Individuals or organizations that have a vested **interest in maintaining the longevity of a library and its community** (library users, library staff and administrators, the community, collection providers, investors (taxpayers, Trustees, friends), policy makers ...)
- **Community-based participatory research (CBPR)** - *active involvement of community members*

Library's digital resources to every bus in town

Las Vegas–Clark County Library District Partners with Transportation Commission for Free Digital Content on Buses

by [Laura Winnick](#)
Nov 10, 2021 | Filed in [News](#)

A partnership between Las Vegas–Clark County Library District (LVCCLD) and the Regional Transportation Commission of Southern Nevada (RTC) is bringing the library's digital resources to every bus in town. Las Vegas transit riders, including out-of-towners, can now immediately access LVCCLD's treasure trove of free movies, ebooks, audiobooks, and magazines with one simple download, without physically being in the library or having a library card.

Through OverDrive's [Libby app](#), riders can become library users anywhere, at any time.

The app, which is already used by thousands of local residents and library patrons, is easy to use and offers patrons hundreds of options to read, listen to, and watch during a commute.

“Bringing the Library to Transit Riders” program

„We’ve just provided another benefit to the bus riders from the library”

<https://www.libraryjournal.com/story/Las-Vegas-Clark-County-Library-District-Partners-with-Transportation-Commission-for-Free-Digital-Content-on-Buses>



LVCCLD Executive Director Kelvin Watson behind the wheel of an RTC bus
Photo credit: Cierra Pedro

INNOVATION ECOSYSTEMS WITHIN LIBRARIES OR LIBRARIES WITHIN INNOVATION ECOSYSTEM?

- The Library Living Lab is a space that gathers all stakeholders around the public library with the aim of exploring new methods and tools that allow visitors/ community to enjoy culture both individually and collectively.
- **The community at the center of co-creation and co-design processes** shift libraries from content warehouses to content creation enablers.

See more: Westerlund, M., Leminen, S. & Rajahonka, M. , 2018; Hernandez-Perez O. et.al., 2022)

At HWLC YOUmedia

(Harold Washington Library Center – Chicago Public Library)



Filming a video



Using a sewing machine



Making music

Photos from:
<https://www.chipublib.org/hwlc-youmedia/>

LIBRARIES IN DISINFORMATION ECOSYSTEMS

INFORMATION LITERACY AND LIBRARIES IN THE AGE OF FAKE NEWS



DENISE E. AGOSTO, EDITOR

Disinformation ecosystem is largely driven by trolls, bots, news media, and partisan actors that pursue domestic political agendas, intimidation, political suppression, and amplification of narratives that serve existing sociopolitical fragmentation

<https://products.abc-clio.com/images/coverimages/9781440864186-TL.JPG>

ECOSYSTEM SHOULD BE SUSTAINABLE

- Sustainability is an immanent attribute of a healthy ecosystem.
- We live in a new situation where the concepts of 'Safe Living' and 'Safe Future' is combined with the concept of Sustainable Development.

SUSTAINABILITY

- “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

(WCED. 1987)

- Sustainability ensures that the actions taken today to ensure the economic and social **wellbeing** of the **current generation** should not compromise the life and wellbeing of the **future generations** .

(Chowdhury, 2016)

- Sustainability is a relevant and essential concept to protect the invaluable knowledge for upcoming generations.



SUSTAINABLE DEVELOPMENT GOALS

- The 17 Sustainable Development Goals (SDGs) proposed by the United Nations in 2015 (<https://sustainabledevelopment.un.org/sdgs>)
 - Information and data form the foundation of all the activities required for achieving sustainability in every area.
1. Eliminate Poverty
 2. Erase Hunger
 3. Establish Good Health and Well-Being
 4. Provide Quality Education
 5. Enforce Gender Equality
 6. Improve Clean Water and Sanitation
 7. Grow Affordable and Clean Energy
 8. Create Decent Work and Economic Growth
 9. Increase Industry, Innovation, and Infrastructure
 10. Reduce Inequality
 11. Mobilize Sustainable Cities and Communities
 12. Influence Responsible Consumption and Production
 13. Organize Climate Action
 14. Develop Life Below Water
 15. Advance Life On Land
 16. Guarantee Peace, Justice, and Strong Institutions
 17. Build Partnerships for the Goals

LIBRARY AS A SUSTAINABLE ECOSYSTEM

- A sustainable ecosystem is a system that survives, functions, and updates itself over time;
- a system in which a local/ regional/ global community can continue to interact, share and transfer intellectual and cultural goods, resources, grow
- *„To be truly sustainable, an organization or community must embody practices that are environmentally sound and economically feasible and socially equitable”.*

(Report of the ALA Special Task Force on Sustainability, 2018)



Kamińska, Opaliński, Wyciślik, 2022, p.

THREE PILLARS OF SUSTAINABILITY OF DIGITAL LIBRARIES AND INFORMATION SERVICES

Economic

to provide cheaper, easier and better access to quality digital information through a sustainable business model — ‘for profit’ or ‘not-for-profit’ (depending on the service provider).

The success can be measured by reducing both the: (1) direct costs, for example through improved creation and distribution of information products and services, and (2) indirect costs, for example through reduction of users time and efforts for discovery, access and use of information relevant to their specific needs, context, culture and work practices, etc.;

Social

to ensure easy and equitable access to information aligned with the users’ specific contexts (personal life, work and social life, etc.) - to build a better (well informed) and healthy society. The success can be achieved (a) by improved accessibility and usability relevant to the user context, culture, etc., (b) by building tools and techniques for measuring and improving the impact of digital libraries in every sphere of life and society;

Environmental

to reduce the energy and environmental costs (carbon footprint) throughout the lifecycle of an information system or service. The success can be achieved by building appropriate tools and techniques as well as measures to reduce the greenhouse gas (GHG) emissions throughout the lifecycle of digital libraries. End-user energy costs play a key role in the overall environmental costs of information service.

CULTURAL SUSTAINABILITY AS THE FOURTH PILLAR OF SUSTAINABILITY CONCEPT

- Cultural heritage is understood as a source of identity, a local sense of place, and as a certain amount of cultural capital, which has been inherited from previous generations, and can be passed to the generations which are about to come after us. Cultural capital includes tangible (e.g., historical treasures), as well as intangible (e.g., knowledge) human race achievements, which can of course be interlinked (Soini, Birkeland, 2014). This heritage has to be available for the public in a sustainable way - as wide as possible.

Four core categories constitute the main points of **cultural sustainability relevant to libraries**:

- preservation of heritage,
 - cultural identity,
 - cultural vitality, and
 - cultural diversity (Loach, Rowley, 2021).
-
- Cultural pillar of sustainability is an inevitable foundation for meeting the holistic goals of the sustainable development movement, and plays several different and substantial roles in this ongoing process. (Soini, Birkeland, 2014).
-
- The cultural space in which people live and identify with is as important to them as the space of the natural environment. In this sense, it takes on the features of an ecosystem. Therefore, threats to the cultural landscape are as important for people (though not as important) as the degradation of the natural environment.

SUSTAINABILITY IN LIS

EXAMPLES:

- **Buildings** - **greening library buildings**, their environmental friendliness, energy and cost efficiency, general sustainability principles, according to which, such buildings should be designed or renovated, and throughout which, they are able to act and serve their users in an environmentally responsible way, with a minimum impact on the environment;
- **Information** – the “**clean information**”, “**green**” information retrieval systems (IR) and services, “green” information technology (IT), etc.;
- **Collections** – focused on the **sustainability subject**; relevant and sustainable at the same time; maintaining and securing documents for future generations, making them at least partly independent from commercial publishers; balancing the growth of the collection in relation to physical space and energy consumption; economically sustainable collection is the one for which the rate of increase in prices is no greater than the rate of increase in the library acquisitions budget;
- **Education** - **environmental literacy**; “**green**” **information literacy** (IL) - sustainable information literacy which is expanded to include sustainable thinking, i.e., being aware of the fact that our information behavior, choices, and actions all have their own ecological footprint which affect the natural environment in a negative way

•
(Kamińska et al., 2022)

DEVELOPMENT FOR ACHIEVING SUSTAINABILITY IN ONE AREA MAY HAVE A SIGNIFICANT POSITIVE OR NEGATIVE INFLUENCE ON ANOTHER AREA OF SUSTAINABILITY

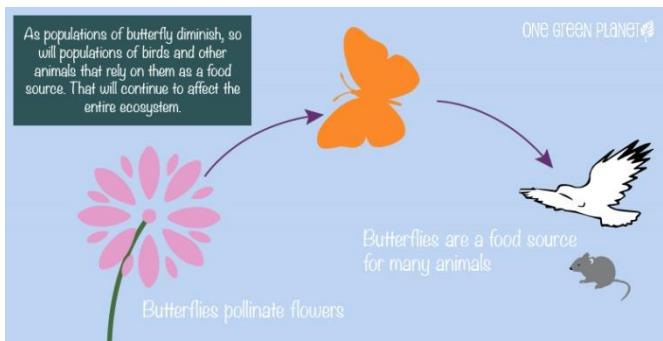
ECOSYSTEM SUSTAINABILITY THREAT

- Libraries of all types work together as part of a library ecosystem to deliver learning opportunities for people of all ages. However, **a threat to one part of the system stresses the entire system.**

(Stripling, 2015)

- **”Libraries are too often seen as an easy target for cuts (...)**
- Closing down libraries to save money is **‘one of the most short-sighted decisions that public officials can make, with serious consequences for the future of local communities.’**
(Catherine Stihler- Open Knowledge Foundation chief executive – during the World Library and Information Congress 2019.)

(Open Knowledge Foundation, 2019)



https://upload.wikimedia.org/wikipedia/commons/thumb/f/f3/Chenille_de_Grand_porte_queue_%28macaon%29.jpg/220px-Chenille_de_Grand_porte_queue_%28macaon%29.jpg

- The butterfly effect is the idea that **small things can have non-linear impacts on a complex system**. The concept is imagined with a butterfly flapping its wings and causing a typhoon...
- „Butterflies play a number of roles in the ecosystem. They act as a pollinator and as a food source for other species, acting as an important connector in a thriving ecosystem web”.
<https://www.onegreenplanet.org/environment/how-the-butterfly-can-shape-an-ecosystem-and-why-we-need-to-protect-them/>

“Technological change is neither additive nor subtractive. It is ecological. I mean “ecological” in the same sense as the word is used by environmental scientists. **One significant change generates total change. If you remove the caterpillars from a given habitat, you are not left with the same environment minus caterpillars: you have a new environment**, and you have reconstituted the conditions of survival; the same is true if you add caterpillars to an environment that has had none.

LIBRARIES SUPPORT SUSTAINABLE DEVELOPMENT AND IMPROVE PEOPLE'S LIVES

libraries are neutral places, enjoy great social trust, are perceived as helpful, help find info that is trustworthy and help with decision, facilitate learning new things and gaining new skills, eliminate barriers ... (users opinions)

IFLA (2017) confirms a strong connection between libraries and development. Libraries:

- **provide opportunities for everyone**
- **empower people for their own self-development**
- **offer access to world knowledge**
- **provide expert guidance**
- **are part of a multi-stakeholder society**
- **must be approved in development policy frameworks**

„Libraries and access to information contribute to improved outcomes across the Sustainable Development Goals (SDGs) by:

- Promoting universal literacy, including digital, media and information literacy and skills, with the support of dedicated staff;
- Closing gaps in access to information and helping government, civil society and business to understand local information needs better;
- Providing a network of delivery sites for government programmes and services;
- Advancing digital inclusion through access to ICT;
- Serving as the heart of the research and academic community; and
- Preserving and providing access to the world's culture and heritage” (p. 3)

IFLA: Access and Opportunity for All (2019)

THREE DYNAMICS OF SUSTAINABLE COMMUNITIES

Sustainable community development is a process for making choices about the future.

Libraries Build Sustainable Communities

- “The three E’s—economy, ecology, and equity—provide a framework for libraries and their communities to explore and anticipate how the choices they make today affect tomorrow.”
- *“The public library has been called ‘one of the seven sustainable wonders of the world.’ The written wisdom of the world at the fingertips of anyone with a library card!”*

(Donella H. Meadows, Dartmouth College)

(ALA: Three Dynamics of Sustainable Communities: Economy, Ecology, and Equity)

RECOMMENDATIONS

FOR DESIGN AND DEVELOPMENT OF PUBLIC LIBRARY SERVICES

- Be aware of your ecosystem and its stakeholders!
- Work with the ecosystem leaders!
- Differentiate your services for different ecosystems with sustainability in mind!
- Consider how your library services can bring impactful change to the community it serves (to the community wellbeing) and how to increase impact of the library in different local ecosystems!
- Designing public library services think about sustainable ecosystems – in economic, social, cultural and environmental sense!
- Incorporate community intellectual, social and economic potential to create healthy, both for people and nature, friendly and flexible ecosystems!
- Remember that library services success depends on the interrelationships among a wide range of players!
- Be a leader in building symbiotic community connections!
- Teach library users to think about environmental issues and future generations not only in theory!

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Katarzyna Materska in the library ecosystem 😊



THANK YOU FOR YOUR ATTENTION!