

ALAN 2016 – 4th International Conference on Artificial Light at Night
Cluj-Napoca, Romania, September 26-28, 2016

URBAN PLANNING CHALLENGES

TOWARDS INTEGRATED APPROACHES IN SUSTAINABLE LIGHTSCAPE AND SOUNDSCAPE PLANNING

SESSION 8A: THE NIGHTTIME ENVIRONMENT
SEPTEMBER 27, 2016



Marie Curie
Actions



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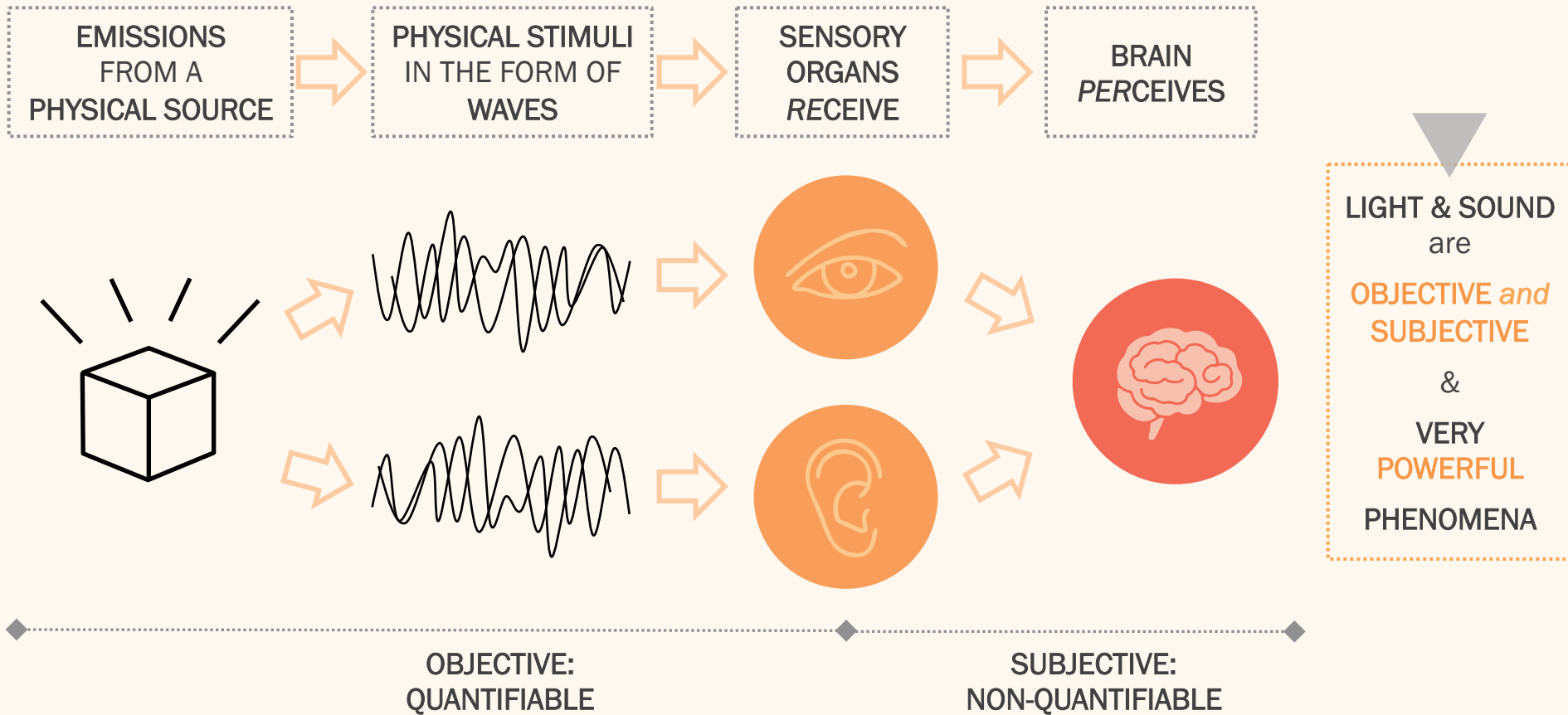
AIMS & OUTLINE

4 SECTIONS

- | | | |
|----|------------------------------------|---|
| 1_ | COMPARING LIGHT & NOISE POLLUTION | ▪ Key similarities |
| 2_ | STATE OF THE ART IN URBAN PLANNING | ▪ Critical review of 2 defining policies |
| 3_ | TACKLING THE CHALLENGES | ▪ Experimental methodology |
| 4_ | SUMMING IT UP | ▪ Potentials for mutual learning and common challenges |

A STRUCTURED COMPARISON

LIGHT & SOUND: CONSTITUTIVE SIMILARITIES



A STRUCTURED COMPARISON

LIGHT & NOISE POLLUTION: SIMILAR EFFECTS

	ISSUE	EFFECTS OF LIGHT POLLUTION & EFFECTS OF NOISE POLLUTION		
HUMANS	HEALTH & WELLBEING	<ul style="list-style-type: none">▪ Nuisance▪ Stress	<ul style="list-style-type: none">▪ Loss of sleep▪ Damage to sensory organs	<ul style="list-style-type: none">▪ Circadian disruption (likely / confirmed)
	SAFETY	<ul style="list-style-type: none">▪ Distraction	<ul style="list-style-type: none">▪ Disorientation	<ul style="list-style-type: none">▪ Reduced acuity
	AESTHETICS	<ul style="list-style-type: none">▪ Perceived “ugliness”	<ul style="list-style-type: none">▪ Overpowering of “beautiful” natural phenomena	<ul style="list-style-type: none">▪ Clutter
	RESOURCES	<ul style="list-style-type: none">▪ Loss of absence: darkness / quietness		
LIVING ENVIRONMENT	SPECIES	<ul style="list-style-type: none">▪ Disorientation	<ul style="list-style-type: none">▪ Overpowering of communication signals	<ul style="list-style-type: none">▪ Alteration of predator-prey relationships
	ECOSYSTEMS	<ul style="list-style-type: none">▪ Shifts in ecosystems		



LIGHT & NOISE POLLUTION are **MATTERS OF PUBLIC CONCERN**

A STRUCTURED COMPARISON

LIGHT & NOISE POLLUTION : SIMILAR CHALLENGES FOR PLANNING



Image: The Wabash Lights Project / Sally Cathcart

- TRANSVERSAL CHARACTER
- LIMITED KNOWLEDGE REGARDING EFFECTS
- AMBIVALENCE OF VALUATION
- COMBINED EFFECTS OF MANY DIFFERENT SOURCES: LIGHTSCAPES, SOUNDSCAPES



PLANNING FOR LIGHT & NOISE
demands

INTEGRATED APPROACHES

STATE OF THE ART IN URBAN PLANNING

LIGHTING POLICIES

EUROPEAN STANDARDS FOR STREET LIGHTING

EN 13201

ISSUES	CRITICAL REVIEW
STATUS ▪ Non-binding <i>industry</i> standards	▪ Highly influential: <i>quasi-legal</i> status
TRANSPARENCY ▪ Closed-shop process	▪ Limited possibilities of engagement & accessibility
METHOD ▪ Quantitative criteria	▪ Technical, calculation-based approach
FOCUS ▪ Traffic safety	▪ Limited planning perspective
THRESHOLDS ▪ Minimum levels of illumination	▪ No definition of maximum levels
DARK AREAS ▪ Not addressed	▪ Not addressed

ENVIRONMENTAL NOISE POLICIES
END 2002/49/EC

MAIN ISSUES

CRITICAL REVIEW



ACOUSTIC PLANNING APPROACH

- END 2002/49/EC -

VS

SOUNDSCAPE RESEARCH APPROACH

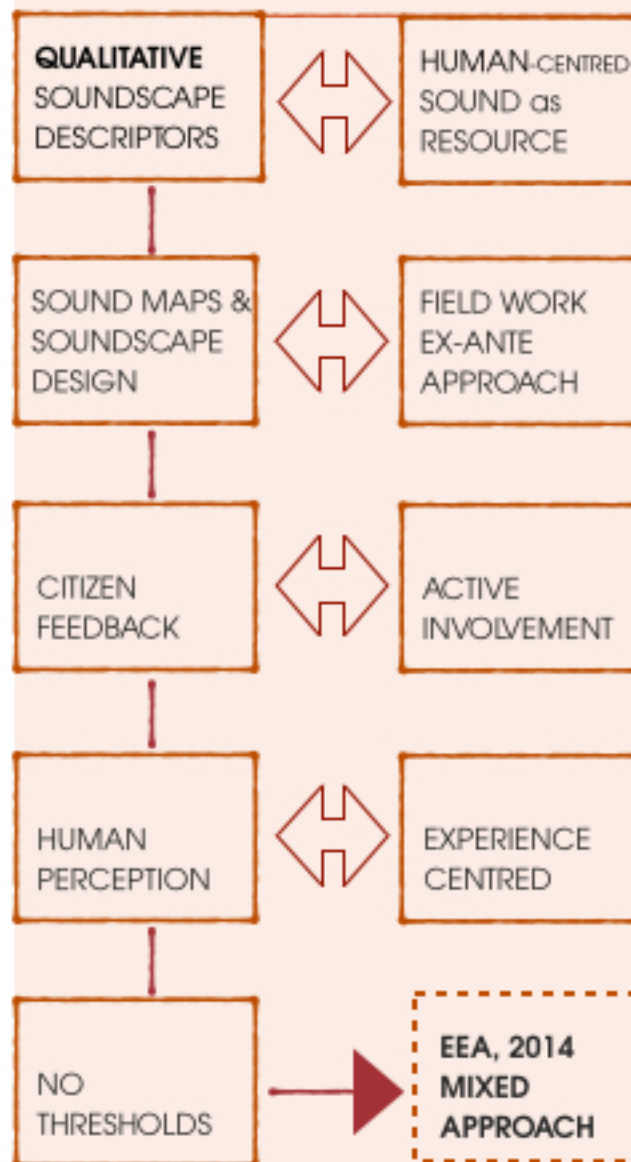
- born in the Sixties

STRENGTHS

MAIN ISSUES



VS



VS

VS

VS

VS

OPEN QUESTIONS



HOW
TO

TOWARDS THE HUMAN (VOICE) SCALE CITY

BEYOND THE NOISE: OPEN SOURCE SOUNDSCAPES

THE “OPEN SOURCE SOUNDSCAPE” APPROACH: IMPLEMENTATION AND IMPACT

WEB-BASED & OPEN SOURCE TOOLS

IMPLEMENTATION OF THE PROJECT

& ITS POSITIVE IMPACT



THE MOBILE HUSH CITY APP

ANALYSIS PHASE: THE PILOT STUDY

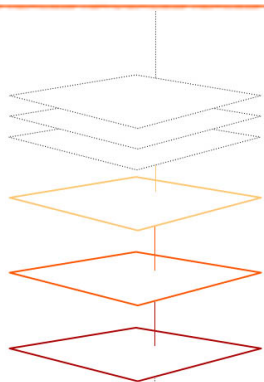
QUALITATIVE & QUANTITATIVE DATA COLLECTION

CITIZEN-DRIVEN DATA COLLECTION

LINKED TO ONLINE DB FOR DATA PROCESSING

CITIZEN PARTICIPATION

TOURISTS' & CITY USERS' NEEDS



THE OPEN SOURCE CITY ATLAS

MAPPING & PLANNING PHASE

OPEN COLLECTION OF DATA BY CITIZENS

MAP OF THE EXISTING QUIET AREAS

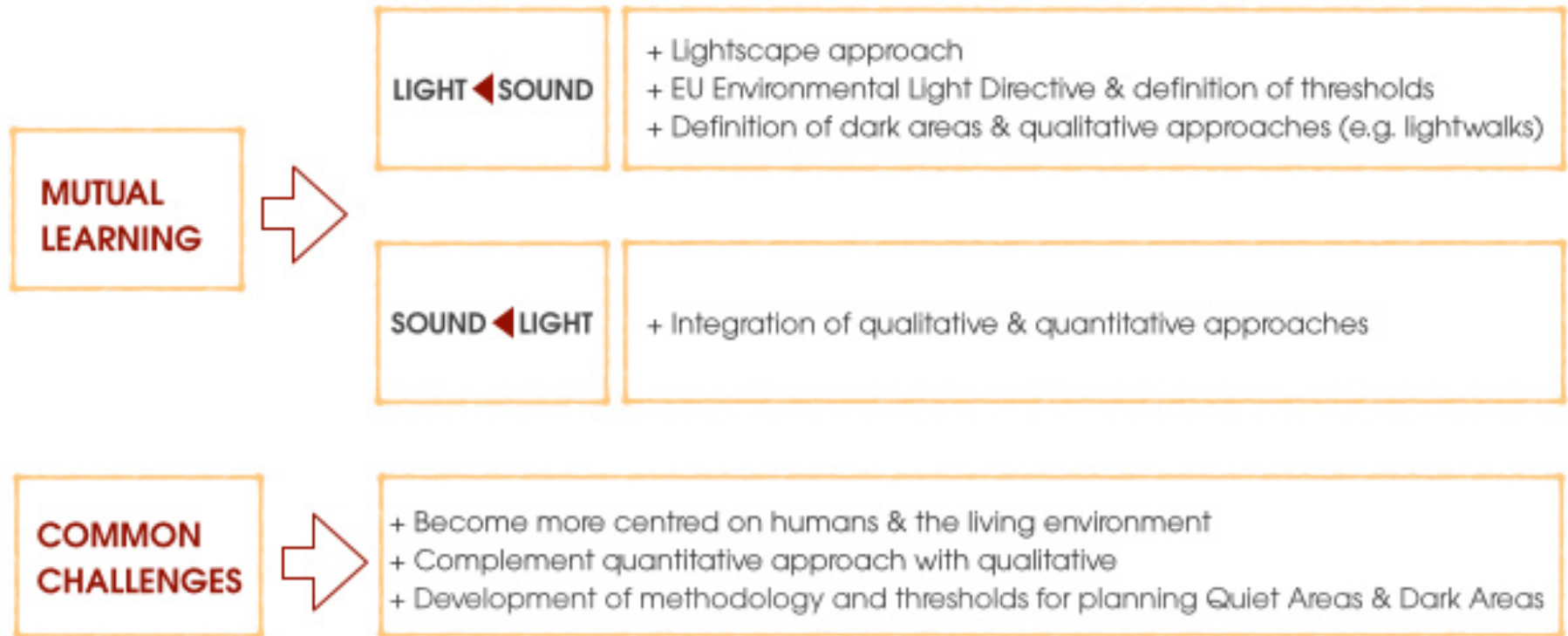
MASTER PLAN OF POTENTIAL NEW QUIET AREAS

INTEGRATED URBAN PLANNING PROCESSES

OPEN DATA SYSTEM

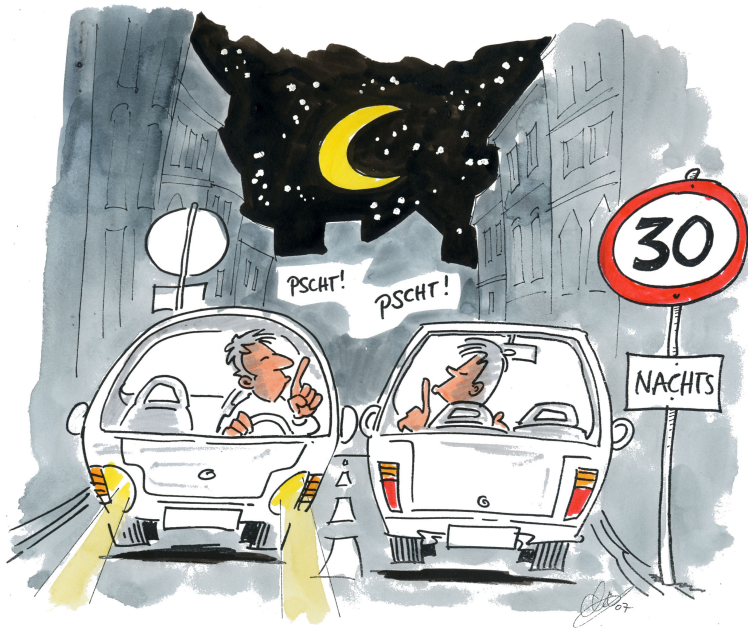
WHAT'S NEXT?

SUGGESTIONS TO BRING HOME



THANKS FOR YOUR ATTENTION ☺

&... STAY IN TOUCH!



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LIGHT



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LIGHT



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