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# Immunophonology

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# Immunophonology

The structure of Immunophonology follows a 'normal' immune response or, its alternative, an autoimmune response:

1. Pathogen attacks host OR
2. An auto immune response triggered
3. Innate immune response
4. Dendritic Professional Antigen Presenting Cells
5. Adaptive immune response

The terminology used in immunology provided the text for the piece and leading on from this, the phonetics and vocal sounds. The chosen words also link to groups within the International Phonetic Alphabet and vocal techniques.

Words	IPA Group	Vocal technique
Pathogen, Infectious, Virus, Disease	Fricatives: th, ff, sh, vv, zz	Whispered
Immunology, Rheumatology, Inflammation, Autoimmune	Vowels: ih, oo, aw, ee, ah Nasals: mm, nn	Chanting & Humming
Examples: Gobble, Gulp, Sizzle, Zap	Onomatopoeia	Eating sounds
Dendritic Professional Antigen Presenting Cells	Plosives: d, p, t	Percussive sounds
T Cells Cytokines B Cells Antibodies	Beatboxing sounds: mm, nn, bm – bass drum; ts –hit-hat; zz – interference; kk – crash cymbal; brrr – bass drum	Beatboxing

Leading on from this, the characters of cells and processes were conveyed through the music. For example, a section about macrophages, which digest foreign bodies, involves eating sounds and onomatopoeia and a section about pathogens, which cause illness and instigate the immune response, involves haunting and menacing whispering.

The work uses small musical cells that layer-up and come together to give an overall picture; this parallels with science (small molecules and cells working together to form something on a grander scale). Above the small musical cells, a linear text occurs providing a narrative of what is happening in the immune response. Thus, the work acts as a teaching tool that verbally tells the story and information about the science.

# Immunophonology

INFECTIOUS PATHOGEN/ VIRUS / DISEASE  
FRICATIVES  
WHISPERING / BREATHY SOUNDS

1 *Whisper*  
*p* ————— *mf* x's 4  
pa-tho pa-tho pa-tho pa-tho Pa-tho-gen

2 x's 4  
*Whisper Hiss Whisper*  
*f p f* x's 4  
An in - ff - fec-tious

3 x's 4 x's 4  
*Buzz Whisper*  
*f mf* x's 4  
vv Vi - ru - s

4 x's 4 x's 4  
*Whisper Buzz*  
*mf f mf* x's 4  
Di- sea - se  
[zz]

Solo *Whisper*  
*f*

An in - fec - tious pa - tho - gen at - tacks its host

IMMUNOLOGY / RHEUMATOLOGY / INFLAMMATION / AUTOIMMUNE  
NASALS & VOWELS  
HUMMING/ SUSTAINED SOUNDS / CHANTING / OVERTONES

(Immunology) *mf* x's 2

1 ih → mm → oo → nn → aw → ee

(Rheumatology) *mf* x's 2

2 oo → mm → ah → aw → ee

(Inflammation) *mf* x's 4

3 ihn fla may nn ihn fla may nn

(Autoimmune) *mf* x's 4

4 Aw toe toe toe ihm myoo na na

Solo *Sing f*

An in - fec - tious pa - tho - gen at - tacks its host and trig - gers an au - to im - mune res - ponse.

INNATE RESPONSE: MACROPHAGES / NEUTROPHILS / PHAGOCYTOSIS  
ONOMATOPOEIA

*f*  
*Tasty* *Lip smacks* *Slurp* *Gurgle* *Gross!*

All *gliss.*  

 mmmm... mb mb mb mb sl grrr **URGH!**

*Munch* *Gulp*

All *hkum* *hkum* *hkum* *hkum* *gob-ble gob-ble gob-ble gob-ble* **GULP!** Pre - sen - ting our big ea - ter, **THE MA-CRO-PHAGE!**

*Eating onomatopoeia*

CHOMP	RUMBLE	HICCUP	BELCH	CHEW
YUCK	SQUELCH	SPLATTER	OM-NOM-NOM	SQUEEGEE
NIBBLE	CRUNCH	RIP	GLUG	YUM

*Hiss* *Trickle* *Zap!*

All *p* *f*  

 ss **SIZ - ZLE** bllll **SPLAT!** Neu - tro - phils make che - mi - cals to **ZAP ZAP ZAP**

*Giggle*

All Pre - sen - ting our big smi - ley, **THE NEU-TRO-PHIL!**

*Chemical reaction onomatopoeia*

WHIZZ	SWOOSH	WHIRR	BUZZ	WHOOSH
CRACKLE	BUBBLE	SPLISH	POP	SNAP
BANG	FIZZ	DRIP	OOZE	SPLOSH

DENDRITIC PROFESSIONAL ANTIGEN PRESENTING CELLS  
PLOSIVES / STOP CONSONANTS

1 *mf* d d d d t t t t p p p p

2 *mf* d d d d t t t t p p p p

3 *mf* d d d d t t t t p p p p

4 *mf* d d d d t t t t p p p p

Solo *Speak*  
*mf*

Den - dri - tic Pro - fes - sio - nal An - ti - gen Pre - sen - ting Cells send a mes - sage to the

# ADAPTIVE RESPONSE - T CELLS / CYTOKINES / B CELLS / ANTIBODIES BEATBOXING

1 *mf*  
Bass Drum Hi-hat  
mm ts ts ts ts T CELL

2 *mf*  
Interference Crash cymbal  
zz kk CY-TO-KINES

3 *mf*  
Drum roll Bass Drum  
brrr bop bop bm B CELL

4 *mf*  
Bass Drum Hi-hat  
nn ts ts nn ts ts ts ts AN-TI-BO-DIES

Solo *Rap f*

An in - fec - tious pa - tho - gen at - tacks its host and trig - gers an au - to im - mune res - ponse. Pre -

Solo

sen - ting our big ea - ter, THE MA-CRO-PHAGE! Pre - sen - ting our big smi - ley, THE NEU-TRO-PHIL!

Solo

Den - dri - tic Pro - fes - sio - nal An - ti - gen Pre - sen - ting Cells send a mes - sage to the T CELLS B CELLS to

Solo

ZAP ZAP ZAP! Im - mu - no - lo - gy rheu - ma - to - lo - gy in - flam - ma - tion au - to im - mune.

