

Toivo Burlin: The creation (and re-creation) of virtual spatiality: Surround sound mixing in King Crimson's back catalog box sets

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Abstract: The article analyzes surround mixing of King Crimson's analog recordings. "Lizard," "Larks' Tongues in Aspic (Part 1)," "The Night Watch," "Trio," and "One Time" are analyzed using the theoretical perspectives of the music recording as representation and spatial design. There is a difference between live and studio recordings in surround: live recordings tend to be mixed according to the *direct/ambient* principle, while studio recordings are mixed according to the principle of *direct-sound all around*. Live recordings in surround can also often be understood as examples of *documentarism*, and studio recordings as examples of *hyper realism*. The spatial design of the surround mix tends to emphasize aspects of spatiality in the broad sense: where the recording can, for example, be interpreted as a landscape in sound.

Introduction

This essay discusses some tendencies in the emerging conventions in contemporary surround mixing of popular music. The subject is music somewhat outside the pop mainstream, but quite popular in a musical sub-culture context. Specifically, the essay looks at studio and live recordings of multi-layered (both musically and in terms of recording technology), so-called progressive rock music. The progressive band King Crimson—a group that encompassed many musicians, instruments, setups, and musical styles over a timespan of fifty years¹—recorded and produced its output using a range of technologies. Its first professional recordings in the 1960s were on 8-track reel-to-reel machines; in the 1970s it used 16 tracks, and in the 1990s 48

¹ The band was formed in London in 1969 by Robert Fripp, Ian McDonald, Michael Giles, Greg Lake and Peter Sinfield.

tracks. The band also frequently was documented in many live and studio sessions in soundboard recordings on e.g. cassette, DAT, and ADAT tape.²

In the 2000s, a great many recordings of the band, in its various incarnations, were systematically digitized, mixed for the first time or remixed to new stereo mixes or in modern surround formats that were mostly not available at the time of the original recordings. The analog multitrack tape recordings—originally mostly designed for stereo—were transformed into high resolution digital audio, and mixed and stored (at the suggestion of Steven Wilson) in surround formats such as (uncompressed) LPCM 5.1 and (compressed) DTS HD surround. The transformation raises questions about the status of the recordings: what happens to them as musical representations, and how is this status affected when remixed to surround? It also raises questions about spatiality in recorded music. I want to address both issues here.

Specifically, I will look at King Crimson's ambitious box sets of their back catalog from the late 1960s to the 1990s: *In the Court of the Crimson King* (2010), *Larks' Tongues in Aspic: Complete Recordings* (2012), *The Road to Red* (2013), and *Starless* (2014), all covering their mid-1970s material; *Thrak Box: Live and Studio Recordings 1994–1997* (2015), covering a huge part of the 1990s; *On (and Off) the Road* (2016), covering the 1980s; and finally *Sailors' Tales 1970–1972* (2017), covering the studio and live recordings of that early period.

Box sets are conceptualized, produced, and packaged in the alternate sphere of the more musician-driven music industry, for the most part outside of Spotify and its streaming compatriots, and with their own distribution channels. King Crimson's own record company, Discipline Global Mobile (DGM), was established by Robert Fripp and David Singleton in 1992; Fripp and King Crimson now have full control over the master recordings.³ DGM has shown that it is possible to define alternate ways to release and distribute music—perhaps with more emphasis on the needs of musicians and fans rather than the industry—and simultaneously to mostly release music on *discs* (LP, CD, DVD, Blu-ray) rather than for streaming.⁴ Consequently, they have released much recorded material—even sub-standard bootleg live recordings, mostly of historical interest for the most dedicated fans—that more conventional record companies probably would not have, owing to the lack of immediate commercial potential.⁵

In the following, however, I will analyze only a strictly limited set of audio material. I will discuss in detail a few example recordings: new surround

² See for example Singleton, David (2015) The tale of the tapes. *Thrak Box: Live and Studio Recordings 1994–1997*.

³ DGM live [20180330] Colgan, Declay (2012) ILPS 9230/SD 7263. *Larks' Tongues in Aspic: The Complete Recordings box set*.

⁴ DGM offers streaming and downloads from its homepage.

⁵ Colgan, Declay (2012) ILPS 9230/SD 7263. *Larks' Tongues in Aspic: The Complete Recordings box set*.

mixes of originally analog multitrack tape recordings taken from the box sets. The box sets in their entirety as sources are also taken into consideration in the analysis.

Transforming analog popular music recordings to digital surround

The history of surround sound is a fascinating one, and here I will outline just a few aspects relevant to the subject of this article. It is a history of technological development that also clearly has important connections to both the history of music in the largest sense (for example, in its spatializing function, to music as a multidimensional spatio-temporal phenomenon connected both to the universe and to earthly, human “territorializing” functions) and to the history of recorded music, sound, and cinema. The short background given here draws on a variety of audio sources and on Tomlinson Holman’s *Surround Sound: Up and Running* (2nd ed., 2008). (Holman is the inventor of the THX cinema system and was involved in the development of 5.1 surround and 10.2 systems.)

Surround sound in recorded music has roots both in music composition itself and in sound recording technology: partly for purely audio music, partly for cinema. The early roots of surround reach back to prehistorical, even mythological, times. Within a more historical timeframe, surround as the idea of a planned spatial organisation of instruments, vocals, and sounds as an integrated parameter of a musical composition dates back at least to the antiphonal singing of Adrian Willaert in St. Mark’s Basilica, and the “all-around” polyphony, or “spaced-antiphonal singing”, of Giovanni Gabrieli, the first to use precise, not just left-right orientation directions for musicians, in sixteenth-century Venice. From there it can be traced to Hector Berlioz’ *Symphonie Fantastique* with its brass players playing from behind in 1830, and Berlioz’ 1837 *Requiem*, with its four discrete orchestras called North, East, West and South. Composers such as Richard Wagner and Gustav Mahler also recognized the importance of spatiality in music and tried to write it into their music, later realized on recordings (Patmore & Clarke, 2007, Holman, 2008, p. 2–3; Burlin, 2008).⁶

The long technological development of surround sound includes such movie milestones as *Fantasia* (1940), with its *Fantasound* system, partly designed by Walt Disney and Leopold Stokowski. Consisting of three front channels and two surround channels located at the back of the cinema—a precursor to the 5.1 standard—it also included advanced optical recording.

⁶ I analyzed recordings of classical music in Sweden using “space” as one parameter in the dissertation *Det imaginära rummet: Inspelningspraxis och produktion av konstmusikfonogram i Sverige 1925–1983* (2008).

The *Cinerama* system invented by Fred Waller and Hazard Reeves in 1952 consisted of a widescreen film with seven channels of sound: five in the front and two surrounds in the back. A more financially successful incarnation of Cinerama was the *Cinemascope* system, with four channels; and *Star Wars* (1977) used a system consisting of three channels in the front, one surround, and one low-frequency channel, for enhancing explosions in space (Holman, 2008, p. 2–9).

With a precursor in quadraphony in the 1970s (when much classical and popular music was issued in quad on both open-reel or 8-track cartridge and on three specially designed, but incompatible, vinyl formats for home music listening), surround in digital audio for the consumer market dates back to the early 1990s. Surround sound in movies, in a lineage descending from *Star Wars*, made an impression on the home market, and in 1987 the 5.1 standard for film was established by the Society of Motion Picture and Television Engineers (SMPTE). It was followed by a series of digital audio industrial systems (and related codecs) including Dolby Digital, Digital Theater Systems (DTS) and Sony Dynamic Digital Sound (SDDS) in the 1990s. All of these systems used low bit-rate coding, due to lack of space on media such as the CD (which, like the later Blu-ray format, used uncompressed linear PCM coding) and CD-ROM. With the advent of new audio media such as SACD in 1999 and DVDA in 2000, it became possible to release high-definition pure music mixed in surround for the consumer market (Holman, 2008, p. 10–22).

From around 2000 onwards there were occasional re-releases of older mainstream pop and rock music in surround 5.1. Examples include Pink Floyd's *Dark Side Of the Moon* SACD 5.1 remix of 2002; Mark Linnett's technically advanced remix to surround of the Beach Boys' *Pet Sounds* in 2003; and Genesis' critically acclaimed SACD/DVDA box set *Genesis 1970–1975*, released in 2008, with surround mixes by Nick Davis. King Crimson's re-released box sets began in 2009 with the 40th anniversary series *In the Court of the Crimson King* and continued with most of the surround remixes produced by Steven Wilson on the earlier material and Jakko Jakszyk on the newer material, who each took quite different approaches to surround mixing.⁷ Both Wilson and Jakszyk also remixed recordings in surround for other 1970s acts, including Emerson, Lake & Palmer (*Trilogy* and *Brain Salad Surgery*), Gentle Giant (*Octopus* and *The Power and the Glory*) and Jethro Tull (*Aqualung*, *Thick as a Brick*, *A Passion Play* and *Songs From the Wood*). Other notable releases in the same field are Pink Floyd's "immersion" editions in 2011–2012, including *Wish You Were Here* in 5.1, remixed by James Guthrie, and the Beatles' 50th anniversary editions of *Sgt. Pepper's Lonely Hearts Club Band* and *the Beatles*, with both a new stereo

⁷ Steven Wilson has remixed recordings by, for example, Gentle Giant and Jethro Tull, Jakko Jakszyk for Jethro Tull and ELP.

mix and surround mix produced by Giles Martin, released in the summer of 2017 and autumn of 2018, respectively.⁸

All of these modern surround mixes of older material offer different solutions to transforming the original media (often analog tape recordings) into a digital remix. Often the process includes—after digitization of the analog material—a painstaking rebuilding of the recording track by track, to find the bits and pieces bounced down in an early stage of the recording process, as in *Pet Sounds*, and separate them from other audio sources in order to be able to make them discrete in the mix. We might also say that the job involves not only transforming the analog multitrack to a chosen digital codec, but simultaneously managing the transformation of the original compositional idea, designed in a specific time-bound media technology, into something sonically different that still retains a common identity as a work—a musical representation—with the original recording. *Pet Sounds*, again, is a good example. It was originally conceived, written, recorded, designed, and produced as a mono recording, and is famous as such. Transformed to surround, it became a very different “work of phonography,” to use a common term.⁹ Something similar could be said of the surround version of *Sgt. Pepper*, which is a transformation of the original idea of the record as a mono mix. The richly orchestrated King Crimson album *Lizard* from 1970 is on another level: according to Steven Wilson, who remixed it for 5.1, *Lizard* was “too big for stereo to contain,”¹⁰ and therefore was better realized as *music* in a surround mix. But this raises questions about the recording as a representation of an original musical idea and of musical spatiality. This is a fundamental problem that deserves discussion, especially in the case of the King Crimson surround remixes.

Some stylistic traits in the music of King Crimson

When King Crimson produced its debut LP *In the Court of the Crimson King* in 1969, it established an advanced and eclectic freeform style with virtuosity and surrealistic lyrics that set the musical framework and standards for progressive rock in the 1970s.¹¹ Genre-wise, this music is not easily categorized by style and deviates from the progressive rock mainstream. Its points

⁸ General information about the mentioned releases can be found on the Internet.

⁹ The *work of phonography* concept has generated an extensive discourse, stemming from Evan Eisenberg (1986) and including e.g. Lee B. Brown's (1998) general definition: “sound-constructs created by the use of recording machinery”.

¹⁰ Smith, Sid (2017) *Sailors' Tales*. *Sailors' Tales 1970–1972* box set.

¹¹ Contemporary groups like Genesis, Yes, Gentle Giant, Van Der Graaf Generator, and Black Sabbath were all much inspired by the high level of musicianship, heaviness, dynamics, sophistication, and the dark and surrealistic lyrics and atmosphere on *In the Court of the Crimson King*: probably one of the most influential debut albums by a completely new and unknown band in the history of rock music.

of departure included the advanced rock music by the Beatles, the Moody Blues and Jimi Hendrix, as well as modern jazz (bebop, free form, cool), influencing the albums *In the Wake of Poseidon*, 1970, *Lizard*, 1970 and *Islands*, 1971. Serious rhythmic influences in the form of irregular time signatures and metric patterns came from the modernist art music of Béla Bartók, Gustav Holst and Igor Stravinsky—most obviously in their adaptation of Holst’s “Mars, Bringer of War” as “The Devil’s Triangle,” but also identifiable in much of King Crimson’s later music.¹² The band’s overall stylistic development also included many personnel changes, with guitarist Robert Fripp as the sole constant, and a varied orchestration with unusual instrumental setups. Besides the standard rock setup of drums, bass guitar, vocals, electric and acoustic guitars, the ensemble sound also included, at various times, woodwinds, synthesizers, mellotron, piano, violin, percussions, stick and frippertronics. The instrumental aspects of the music were often prioritized over the vocal parts.¹³

King Crimson’s music developed in the mid-1970s into a hard rock style completely devoid of blues but with an art music, free jazz and fusion attitude. It built on sharp and harsh contrasts between percussion and pastoral elements on violin, flute, and acoustic guitar with heavy, rhythmically complex, asymmetrical (sometimes atonal) electric guitar riffs. The albums *Larks’ Tongues in Aspic* (1973), *Starless and Bible Black* (1974), and *Red* (1974) became highly influential.

The band re-formed in 1981 with a complex, new wave- and minimalism-influenced style and within a short span of time (1981–1984) released the albums *Discipline*, *Beat* and *Three of a Perfect Pair*. It re-formed once more in 1994 as the so-called “double trio” (two each on guitar, drums, and bass), releasing the stylistically diverse CD *Thrak* in 1995.¹⁴ Over the years, King Crimson performed and recorded at consistently very high levels of musicianship and audio technology, while also exhibiting high productivity both live and in the studio—a feat admired by many musicians.

The surround mixes in the box sets: Methodology

The King Crimson box sets are rich in recorded and additional material and could well be used for many different and detailed studies: of the music itself, of studio recording practice, of performance practice, etc. All of the box sets include both studio and live recordings. The recordings include original mixes as well as remixed versions and alternate takes and mixes,

¹² On the *In the wake of Poseidon* LP (1970).

¹³ Many elite UK and US musicians have been members of the band over the years.

¹⁴ The band has since been active in periods, releasing the studio albums *The ConstruKction of Light* (2000) and *The Power to Believe* (2003) and many live recordings. King Crimson has been a world touring band since 2014.

and use different sound codecs—mixed in mono, stereo, and surround. Assorted quadrophonic mixes from the 1970s are also included, possible to listen to in a 5.1 setup. Essential for this discussion are the surround mixes in LPCM 5.1 and other codecs, both uncompressed and compressed, including e.g. DTS HD surround.¹⁵ However, I will principally turn to the mix using the best, i.e. uncompressed, codec available, and will not compare the same recording or mix in different codecs. The surround mixes I will discuss are a few representative examples, highlighting tendencies only. The method used in this investigation was a careful listening to the selected 5.1 mixes in an adequate, calibrated 5.1 setup, balanced primarily for music listening (Holman, 2008, p. 36–45). The listening experience is subjective but informed by my knowledge of the band's repertoire, my hearing and ear training skills, and my personal experience of surround mixing.¹⁶ The focus is on the balance and placement of the instruments and sounds in the surround field in the selected recordings. The latter part of this essay presents the results of my listening, more so than the process itself.

Aim and research questions

My aim is to analyze the mixing strategies and the conventions of surround mixing of this older, originally analog recorded musical material from both a technological and a musical perspective. I want to show how emerging conventions for surround mixing are connected to production ideals of *documentarism* and *hyper realism*. Specifically, I ask: How is the music mixed, panned, and spatialized in the surround field? And how do surround mix conventions for studio and live recordings differ? In particular, five songs on six recordings mixed in surround will be analyzed, presented here in the order they were first released:

- “Lizard.” From the studio LP *Lizard*, released in 1970. The surround mix was produced in 2009 in DTS-HD Master Audio and PCM surround and re-released on the *Sailors' Tales 1970–1972* box set, 2017.
- “Larks' Tongues in Aspic, Part 1.” From the studio LP *Larks' Tongues in Aspic*, released in 1973. The surround mix was produced in 2012 in LPCM 5.1 and DTS-HD Master surround 5.1 and released on the *Larks' Tongues in Aspic: Complete recordings* box set, 2012.

¹⁵ Compression is just one variable of sound quality in different codecs. The quality of the master is obviously very important.

¹⁶ I have a hearing range of about 8 Hz to 19700 Hz.

- “The Night Watch.” From the “pseudo” studio LP *Starless and Bible Black*, released in March 1974. Major parts were recorded live on tape with studio overdubs. The surround mix was produced in 2014 in LPCM 5.1 and DTS-HD Master audio 5.1 and released on the *Starless* box set, 2014.
- “The Night Watch” and “Improv—Trio.” From the multitrack live recording *Amsterdam Concertgebouw*, November 23, 1973. First released in 1997 on the double CD *The Night Watch*, the surround mix was produced in 2014 in LPCM 5.1 and released on the *Starless* box set, 2014.
- “The Night Watch” and “Improv—Trio.” From the multitrack live recording *Mainz Elser Hof*, March 30, 1974. The surround mix was produced in 2014 in LPCM 5.1 and DTS-HD Master audio 5.1 and released on the *Starless* box set, 2014.
- “One Time.” From the studio CD *Thrak*, released in 1995. The surround mix was produced in 2015 in LPCM 5.1 and DTS-HD Master Surround 5.1 and released on the *Thrak Box: Live and Studio Recordings 1994–1997* box set, 2015.

Theory: Representation and spatiality

Here I would like to introduce two useful analytical models: the first for analyzing recorded music as representations, and the other for analyzing spatiality in music from a meta-perspective.

The *representation model* (Burlin, 2008, 2012, 2015) develops and combines previous theoretical positions regarding the ontological status of music recording (Bennett, 1983; Tagg, 1979; Brown, 2000). It postulates that a work of phonography (Brown, 2000; Simonsen, 2008; Burlin, 2008; Ternhag, 2009) can be ontologically understood as a *representation* (or parallel representations) of historical, aesthetic, musical, and descriptive/prescriptive parameters in the recording. These aspects fall into four main categories, numbered I–IV: historical representation, aesthetic representation, musical representation, and hyper notation (Burlin 2008, 2012, pp. 239–272).¹⁷ Of immediate relevance here are II, III, IV.

- I. Historical representation.
- II. Aesthetic/idea representation. The recording has been created according to a production ideal that may or may not be especially pronounced: either documentarism or hyper realism. Documentarism is

¹⁷ Historical representation. The recording represents something that has happened: a documentation of one or more musical events, at one or several moments, under specific circumstances (e.g. in a certain kind of spatial environment and with certain equipment).

an ideal of auditive realism in recording, with minimal editing and processing of the sound. The goal is for each instrument and voice to sound as it does “live.” This ideal has been normative in classical music, folk music, and jazz. The documentarist recording should be a true auditory reflection of the musical repertoire, the style, and the musicians’ technical ability. Hyper realism (hyper = above, beyond), means using all available technical tools and methods to produce a satisfying recording, even if this results in music that is harder to realize live. The ideal was established in 1960s pop, with the Beatles’ *Sgt. Pepper* album as a prototype. Hyper realistic recordings are produced in relation to a wider field of recorded music, which has gradually convinced audiences to perceive highly produced music as “realistic.” Hyper realism is associated with rock and pop music, but both documentarism and hyper realism are production ideals that cross genre boundaries.

- III. Musical representation. A number of musical parameters (like beat, harmony, melody line etc; see Burlin, 2012, p. 247–248) can be represented on music recordings. Two important parameters are technical sound, which can be clearly associated with the technology employed, including mixing conventions, and spatiality, which is explained below.
- IV. Hyper notation. Works of phonography—in any genre—can represent realized ideal versions of a scored or unscored work. The work of phonography will be assigned this status by composers, musicians, producers, or listeners. As an ideal version of a work it becomes something more than “music.” It becomes a normative, prescriptive instruction: a hyper notation (i.e. for how the work will be realized in future performances and recordings).¹⁸

The *spatiality model* (Burlin, 2012, p. 133–134, Burlin, 2015) complements category III, musical representation, as a way to analyze spatiality—or spatial design—in (recorded) music. Spatiality has been recognized as an enormously important aspect of music (see for example Moylan, 1992, 2015; Moore, 1993, 2001; Gibson, 1997, 2005; Doyle, 2005; Brøvig-Hanssen & Danielsen, 2013; Kraugerud, 2017; Vad, 2017). The spatiality model is largely independent of these discussions, but has some elements in common

¹⁸ The representation of hyper notation becomes particularly clear in notated music, as the difference in information content between the score and the musical realization on the recording appears clear (i.e. the meaning of interpretation). Likewise, the higher the degree of hyper realism, the greater the possibility that the work of phonography will work as hyper notation, as the recording tends to be a unique representation of the work. However, just because the work of phonography is characterized by hyper realism does not guarantee that it also functions as hyper notation, and a work of phonography characterized by documentarism can also function as hyper notation, if given the status as a good example of recorded music, prescriptive or normative.

with them. In this model, there are (or can be) four main recorded “spatialities” in a chosen piece of recorded music—overlapping, but principally distinct. Spatiality is understood as a symbolically fundamental aspect of all music. As such, it consists of much more than room acoustics; it also encompasses distances and relationships between instruments as well as *metaphorical spatiality*, which may signify inner (that is, mental states) or outer (that is, “the world”) spatialities in human life in the broadest sense. The spatial conditions and parameters may be sorted into the following scheme:

- a. Acoustic spatiality: the sounding room acoustics; “natural” spatiality.
- b. Musical spatiality: the placement/mixing/panning of instruments.
- c. External spatiality: metaphorical signifiers of the world outside the music (voices, water, birds, cities, caves, etc.)
- d. Internal spatiality: sounding aspects of the recording, signifying introversion and human mental states, including “unnatural” reverbs or effects.

Some observations on the 5.1 mixes

With respect to the theories and models above, I would like to make some observations and draw a few conclusions regarding my examples: “Lizard,” “Larks’ Tongues in Aspic, Part 1,” “The Night Watch,” “Trio,” and “One Time.”

According to Holman (and in line with production common sense) there are two basic approaches to surround mixing: *direct/ambient* and *direct-sound all around* (Holman, 2008, p. 107). The two approaches are vaguely related to “live” vs. “studio” as recording environments and concepts, *spaciousness* vs. *envelopment* (Holman, 2008, p. 187), and also to the production ideals of documentarism and hyper realism. Recordings with a live—and simultaneously “documentaristic”—production ideal, such as surround recordings of orchestral classical music, are often made and mixed using a direct/ambient approach. The sonic impression is of sitting and listening in a concert hall or a church, with reflected sound coming from behind. The King Crimson surround live recordings are mainly mixed in this way, but some of them are mixed more in the manner of surround studio recordings, with direct-sound all around, therefore displaying a tendency toward hyper realism. In general, surround mixing in rock and pop music is related to the established conventions of the stereo “diagonal mix” (Dockwray & Moore, 2010). The King Crimson surround mixes, both live and studio recordings, are no exception. That is, the drums are located somewhere in the middle of the surround field, the bass guitar somewhere near the drums, guitars are sharply panned to the left or right, pianos are also often panned to the left or right,

and finally the voice or voices are located in the center (speaker)—or on the opposite side in the surround field, coming from behind the listener.

Let me turn first to the live recordings. My first live example tracks (all with the same lineup of Robert Fripp on electric guitar, John Wetton on bass guitar and vocals, Bill Bruford on drums, and David Cross on violin and mellotron) are from a sonically superb live recording from Mainz Elser Hof on March 30, 1974, which includes versions of “The Night Watch” and “Trio.” This surround mix was created by Steven Wilson by combining the board recording with a live bootleg from the same concert, “resulting in a prime seat about ten rows back at one of the best shows this band ever played,” according to engineer David Singleton.¹⁹ The mix of the whole composite recording seems to come very close to the original live event: the direct/ambient sound approach is used for the surround mixing and it is therefore also clearly documentaristic. The listener is virtually placed in the audience, in front of the stage, probably close to the position of the bootlegger. However, in the surround mixes of the live versions of “The Night Watch” and “Trio” from Mainz Elser Hof the tendency towards hyper realism is strong. “Trio” as a live improvisation encircles the listener, who virtually flies, placed somewhere between the stage and in the concert arena. This effect is technologically dependent: with two analog recordings from the same concert, double tracked together in the digital studio environment, it was possible to create the track as a piece of documentaristic hyper reality. It is therefore possible to experience the recording as a real concert—nearly as if it were happening *now*.

Let us compare this to another recorded live concert, this one from the Amsterdam Concertgebouw on November 23, 1973 (mix by Steven Wilson). This is a well-recorded professional multitrack recording, including versions of “The Night Watch” and “Trio”, which was broadcast and also mixed in quad by the engineer George Chkiantz.²⁰ Here, however, the surround mixing approach tends even more towards direct-sound all around. The listener is virtually situated in the middle of the stage, surrounded by the musicians, fully enveloped by the music. The aesthetic ideal of hyper realism is more apparent here. The other available mixes of the concert presents different perspectives (there exist at least two different stereo mixes in 16/44.1 and 24/48), perhaps tending more towards documentarism.

Starless and Bible Black, King Crimson’s 1974 LP, is an interesting production that links together live and studio recordings in a subtle and integrated way. This LP was conceptualized as a “studio recording,” but was mainly recorded live on tour, with audience sounds edited out.²¹ Although not mar-

¹⁹ Singleton, David (2014) *The tale of the tapes Continued*. Starless box set.

²⁰ Ibid.

²¹ Compare with the King Crimson LP *USA*, 1975, which was recorded live but had studio overdubs and was marketed as a live LP.

keted as a live LP, it was no secret that most of it was in fact recorded live, on the same tours as the Amsterdam Concertgebouw concert—many of the recordings for *Starless and Bible Black* came from that particular concert—and Mainz Elser Hof. *Starless and Bible Black* was made up partly of pre-written songs, partly of freeform improvisations such as “Trio.” The latter was an improvisation recorded in concert—the location is not known, but there are similarities to the versions recorded at Concertgebouw and Elser Hof—and released as-is, minus audience sounds, on the record.²² Out of eight tracks on *Starless and Bible Black* only two were recorded primarily in the studio. And at least one of these two tracks—the Rembrandt-inspired single “The Night Watch”—had an introduction taken from a live recording, maybe Concertgebouw, although the principal part of the song was recorded in the studio (George Martin’s AIR). As a surround mix, it uses the direct-sound all around approach and it is enveloping: the listener is almost part of the band. Thus on *Starless and Bible Black*, the band seems to strive in its stereo mix to create a recording somewhere between documentarism and hyper realism: a record that captures the best of live performances and presents them as studio recordings. The surround mix of “The Night Watch,” especially, underscores the listening position in middle of the band—the representation of the drums is very realistic—with a direct and sharp sound that makes the tendency towards hyper realism more pronounced.

The three studio recordings in surround here—“Lizard” from the *Lizard* LP (1970), “Larks’ Tongues in Aspic, Part 1” from the *Larks’ Tongues in Aspic* LP (1973), and “One Time” from the *Thrak* CD (1995)—have both similarities and differences as surround mixes.

Of these, “Lizard” is the longest at 23:35, sonically probably the most complex, and one of the first side-long progressive suites.²³ It was recorded with a large and unstable lineup (Robert Fripp, guitar, mellotron, electric keyboards and devices; Andy McCulloch, drums; Gordon Haskell, bass guitar and vocals; Jon Anderson, vocals; Mel Collins, saxes and flutes; Robin Miller, oboe and cor anglais; Mark Charig, cornet; Nick Evans, trombone; and Keith Tippett, piano). The track is an extraordinary fusion of free jazz and progressive rock, characterized by contrasts between strict pre-written arrangements and free jazz piano and wind instruments improvisations. The extraordinarily creative surround mix was produced by Steven Wilson in 2009.²⁴ In the difficult process of remixing the multitrack tapes to new stereo and surround mixes, he found that the 16 tracks originally used for the recording of “Lizard” were in practice over used: one track could have many

²² Smith, Sid (2014) When people stomped on dirty floors... p. 12. Singleton, David (2014) The tale of the tapes Continued. *Starless box set*.

²³ Jon Anderson, who was the guest singer on *Lizard*, took the ambition and ideas back to to his group Yes with “Close to the Edge” (1972), and it is probable that both ELP’s “Tarkus” suite (1971) and Genesis’ “Supper’s Ready” (1972) owe a debt to *Lizard*.

²⁴ King Crimson: *Sailors’ Tales 1970–1972*. DGM/Panegyric, 2017.

separate takes of different instruments, followed by bounces of used or unused takes, etc., and it was not always obvious what should be included in the remix. He had to use the original mix from 1970 as a template, or, with the vocabulary used here, as a hyper notation for the new mixes (Smith, 2017).

In Wilson's surround mix the instruments do not have fixed locations in the surround image. Instead, they have great mobility within it. The instruments move around in the surround field between the four parts of the song and also within each part. For example, the piano, which is mostly located in the left and center speakers, later moves back to the surround rear speakers. These are used as much as the two front speakers and the center speaker, and not only to reproduce reflected sound. In "Lizard" the surround speakers are on an even footing with the front speakers, and in practice used to great effect as the primary location for some of the instruments: for example, double-tracked drums and woodwinds. The drums in the front are partly in parallel with the back drums, which perform accentuations. The main vocals—bright and shimmering—are located in the center speaker with processed voices sounding from the rear speakers and creating a spacious effect. The center speaker is also used for purely instrumental parts, for example the cornet. High-frequency mellotrons—a trademark of the band—are spread across the surround field and create an almost breathtaking ambient feel. The wind instruments throughout the track are often divided between the front and the rear speakers. Together they produce a full surround music experience: an impression of being inside the music. The mobility of the instruments is even more pronounced at the end of the track, in the "Big Top" section, when the electric guitar—which is more or less absent from most of "Lizard"—plays a solo that starts in the rear speakers and then circles clockwise around the surround field with the bass drum and bass guitar playing low bass notes in the left and center speakers. The concluding "circus" track is wildly panned around, perhaps like a carousel: the melody, played on the mellotron and a piano, moves from the left to the right speaker and then circles clockwise. At the end of "Lizard" all the instruments, even the drums, are in motion around the surround field before they fade out and disappear.

"Larks' Tongues in Aspic, Part 1" was recorded when King Crimson was a five-piece in 1972—1973 (Robert Fripp, guitar; Bill Bruford, drums; Jamie Muir, percussion; John Wetton, bass guitar and vocals; David Cross, violin). The track is a collective composition and it marked a new King Crimson fusion: compared to "Lizard," it has a completely different timbre, characterized by violin, up-front electric guitar riffs, and sophisticated percussion in a multi-sectional form. It is an extremely dynamic, instrumental work. The multitrack recording includes a huge palette of non-musical sounds as well as voices and some percussive sounds, reminiscent of nature. "Larks' Tongues in Aspic, Part 1" is a mind-blowing recording in stereo and even

more so in surround, with a perfectly balanced mix: all of the surround field, direct-sound all around, is used to great effect. The many percussion instruments are panned mainly behind in the two rear speakers. The solo violin parts are placed in the front/middle of the surround field, between the center speaker and the rear speakers, and the most subtle percussive parts—evoking chilling bird and wind sounds but belonging to Jamie Muir’s advanced palette of percussion instruments—sound alongside whispering and speaking voices. It opens the door to a different musical-metaphorical world: a mental landscape of sounds. Through the creative process of remixing to surround, “Larks’ Tongues in Aspic, Part 1” becomes a more “real” hyper realistic representation of the music than the stereo mix. Perhaps it is also possible to hear it as a hyper notation: a truly prescriptive sonic notation for the work of phonography that is “Larks’ Tongues in Aspic, Part 1.”

“One Time” was recorded in 1994 with a six-piece setup, the so-called “double trio” (Robert Fripp, guitar; Bill Bruford, drums; Pat Mastelotto, drums; Tony Levin, bass guitar and stick; Trey Gunn, bass guitar and stick; Adrian Belew, guitar and vocals). The album *Thrak* was recorded on 48 tracks at Real World Studios. The album unmistakably has the sound of its time, with lots of digital processing on all the instruments: even the guitars and basses were recorded or processed in stereo. This, according to Jakko Jakszyk, who re-mixed the master tapes, “all added to the mush and lack of clarity in the original stereo, so in surround I made these either very narrow or used just one side” (Kelman 2015). Jakszyk produced the new surround remix with the aim of separating the instruments and creating more distance between them. He also added parts that had been recorded but not included in the original mix, and were now heard with more clarity. He strictly limited the use of spatiality, with more emphasis on mono reverbs, imitating the mixing and production practice of the 1970s. The new stereo mix was produced with the surround mix as the sonic template, hyper notation (Kelman, 2015). Compared to the *Larks’* band and track—with its great dynamics in the music, from the utterly pastoral violin parts to heavy metal riffs—the *Thrak* instrumental setup was more limited and more severe, with its double “rock trio” instrumentation. However, “One Time” is a richly spacious recording and mix, an orchestrated, ambient track in the double trio format. With a simple drum pattern mixed behind the sweet spot, in the surrounds, and with an added, distinct, longer mono echo of the drums right in front of the sweet spot, it produces a particular spaciousness of marked sonic beauty. One of the two bass lines is in the front center speaker while the second is behind the listener in the rear speakers, both contrapuntally played. The clear frequency distribution between bass and treble, for example, the two bass guitars and the high treble guitar lines—strongly contributes to the spacious feel. The vocals are in the front center, with guitars left front and right front with spacious delays, creating an ambient, floating feel. “One Time” is mixed using surround principles partly similar to “Larks’ Tongues”—

inspired by that time—and with its direct-sound all around mix, it is distinctly hyper realistic. The two tracks share a similarity of approach in that drums and percussion are much important in the music and are clarified in the mix through distinct separation. The two drummers and percussionists play with and against each other, in cross-rhythms, polyrhythmically. This is distinctly spatialized in the surround mix of “One Time” and the whole surround mix of *Thrak*, so it becomes obvious that there are two percussionists playing together in the same room, in the same “acoustic spatiality” (i.e. the studio).

It is relevant to ask why the spatial reinterpretation of the King Crimson stereo recordings was produced: why surround in recorded music? In reasoning inspired by Gilles Deleuze's and Félix Guattari's theory of a complementary relationship between music and spatiality, Peter Doyle argues that the spatial aspect of recordings must be related to music's function as art and communication. Music is part of a process of continuous creation and dissolution of space, or “territory.” Musical spatiality is thus a “territorializing” expression of individual or group communication and struggles for space, a perspective that I find reasonable (Doyle, 2005, p. 17).

Here I want to draw a connection to the *spatiality model*. In “Lizard”, for example, the dynamic surround mix interprets and comment on the lyrics, creating a three-dimensional sonic world where the listener is situated in a fantasy landscape. The distribution of the instruments, such as the high-frequency mellotrons spread widely across the speakers, creates the sonic impression of an open landscape, or perhaps a battlefield. The acoustic and musical spatiality together evoke an external spatiality. The spinning circus melody at the end is another signal of the environment, another “external spatiality.” The creative use of different percussive sounds in “Larks' Tongues in Aspic, Part 1”, which obviously reference sounds from the natural world, also clearly generates an “external spatiality,” signifying the world outside the music. The track is a spacious recording and the surround mix underscores inherent sonic and spatial qualities in the original recording not fully realized in the original stereo mix—instead re-creating spatiality and creating a new hyper notation. In the surround mix, it is possible to simultaneously hear many layers of meaning: the music performed with an acoustic, a musical, and an external spatiality. Maybe it is the internal spatiality we hear in the spoken voices: surround as an advanced sound technology whose principal function is to realize the spatiality inherent in music, to open up the analog tape recordings for a truer form of communication.

It is thus probably clear that new conventions for surround mixing of “studio” or “live” recordings of music are established slowly through the digitized re-interpretation of analog recordings, and it is possible to hear this process in real time in the remixed King Crimson recordings. The “studio” and “live” surround conventions examined here—related to the *direct-sound all around* and *direct/ambient* approaches, respectively—are principally developed from the diagonal stereo mix convention of popular music, but are

freer, especially in the longer studio tracks. The live tracks, on the other hand, are conceptualized as part of the outside world, with external spatiality. Therefore, the music of the band is mainly panned in the front. The sounds of spaciousness, reflections, and the voices of the audience envelop the listener from behind.

The mixing conventions whose emergence is studied here have much in common with surround mixing of other recordings in the same genre or related genres, as in the examples mentioned above, but are more articulated: therefore, it is possible to listen to the King Crimson surround mixes as something like sonic templates, *hyper notations*, for surround in music.

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