Primož Trdan

Kronolit – kamen, čas, konkretno in umišljeno

Chronolith – Stone, Time, Concrete and Imagined

Miloš Bartol

Čas v kamen, znanost v umetnost

Time in Stone, Science in Art

STEKLENIK

Foto: Maša Pirc, arhiv Kino Šiška.

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Moje ime je Petra. V stari grščini πέτρα (*pétra*) pomeni kamen. Beseda naj ne bi bila povezana s hindujsko पत्थर *patthar*, kamen, iz sanskrtske besede प्रस्तर, *prastara*, a je branje v slovanskih jezikih pomenljivo. Ko si v dlan položim kamen, ko jo položim na skalo, je dotik prastar. Prastaro se dotika brezčasnega v meni. Ko poslušam kozmos, prisluškujem resonanci in odmevom znotraj svojega mineralno-vodnega telesa. Življenje okameneva v raznolikih ritmih, kot kamen se zdi skoraj večno, a vendarle večnost ni stanje potencialnosti, je negacija življenja. Od nekdaj mi je misel na večno življenje neznosna. Kako slišim kamen? Kako kamen sliši mene? Zagotovo vedno znova drugače. Kaj je kamen slišal vse do naše aktualne izkustvene resničnosti? Terra ∞ Kozmos. A že (sama) količina zvočne materije, vtisnjene v moje snovno bivanje, je zastrašujoča. Nekje (vse) pretresljivo je, spomin kaplja iz razpok, odzvanja v tihoti. Kamen razbiram v teksturi njegove kože, v pisavah, podobah, pokrajinah, arhitekturah … Govori mi, slišim ga, akuzmatično, skozi prekate njegove snovnosti. Veter vzdrami valovanje morja, tektonika zaniha kamenine pod in na površju planeta, glas me vzdrami, vse do posamezne celice, čutim ga kot val znotraj kože, nekaj v meni se odzove, zatrepeta … Ko bi le zmogla sama določati količino in interferenco zvočnega valovanja, ki me (pogosto nasilno) uklanja kaosu urbanega okolja. Planet se presnavlja, strukturira se skozi življenje, iz ene oblike v drugo, že eone rotacij planetov in zvezd, neskončno oblik življenja … v ekstatično, nedoumljivo prihodnost … končnost? Krik kamna. Terra je budna sanjalka, rada ozvočuje sledi, odtisnjene v lastno stvarnost. Poslušam.

Petra Kapš (alias OR poiesis)

Ko mislim kamen, mislim zvezdo in zrno peska
mene v njem
uho v ušesu
prostor, zvit v trkanje atomov
materija, ki se zaveda sebe,
se gradi, poka, levi, rojeva, bubi, srka, poje, trga, penetrira
njeno pretakanje iz anorganskega v organsko in spet v krhki kras fosilov
milijardo let dolgih ciklusov oceana, teme pod sedimenti ritmov v veleritmu
ples atomov in kvarkov in subov
tresljajev globoko v središču
ki so jaz, ki so jutri kamen, pesek, prah, odmev ...
med silnicami nanostruktur
ki so šum vesolja in življenja
šum, ki je pesem.
In mislim najino civilizacijo, tvojo in mojo,
ki zastira znanje z gugl decibeli balasta
ekstrudiranega strahu
šum, ki je razdiralni hrup (in ne reci, da to je glasba).
V žilah žive skale je najin potencial, da poveževa te energije v arabesko svojega časa,
da sva šum, ki ga rabi ta pesem.

Bojana Šaljić Podešva

Imaginarno telo Kronolit

Naš planet dojemam kot telo, ki potuje po neskončnem vesolju. Sestavljeno je iz delcev, katerih velikost si lahko predstavljam, saj jih lahko vidim, celo držim v dlani, nekatere pa zgolj občutim in/ali si jih predstavljam. Ko ene in druge poskusim združiti ali povezovati, ustvarim kompozicije zvočnih oblik, saj vsak premik spremlja zvok. Kaj pa navidezno statične oblike in telesa mnogoterih sestavin, kot npr. kamnine, minerali? So res le trdni objekti, ki se zdijo nepremični v času in prostoru? V njih obstaja zamrznjeni čas, zapis preteklih dob, čakajoč na prihodnost. Pogled nanje mi riše navidezne podobe. Iz gmote se oblikujejo imaginarna telesa, ki jih ne morem postaviti na polico ali na tla, saj so predvsem zvočna.

Ko jih pogledam s primerne oddaljenosti, razpoznam in poslušam imaginarno telo Kronolit.

Boštjan Perovšek

Sem. So-ob. Sem znotraj, zunaj, izven, povsod. Povezan in ločen v sosedstvu enakih in podobnih – sobivam. Sem snov, akumulirana energija, stanje potencialov, ki v nezaznavnih impulzih nihajo v vzpostavljenih stabilnih razmerjih. V spokojni predanosti, latentnem pri-čakovanju nenadnih, časovno nedefiniranih sprememb, procesov raz-gradnje in odsotnosti – obstajam. Delujem kot nepogrešljivi del celote, vplivam in delujem v kontinuiranem procesu soodvisnosti so-obstoječih. Sem so-ob, del skupnosti snovi – tisti, tista, tisto, ki v nešteto oblikah in spojenih kombinacijah obstaja v nešteto stanjih in pogojih, ki jih vzpostavlja, preoblikuje in sooblikuje ...

Moja esenca in obstoj sta odvisna od so-obov. A brez moje, tvoje, njihove prisotnosti ni stabilnosti, ravnotežja, po katerih sicer hrepenimo, a jih tudi z radostjo rušimo.

Zvenimo, resoniramo, gibljemo, zasedamo prostor. Kot DA, kot NE, kot MOGOČE. Na skrajnih točkah vektorsko raz(po)tegnjenih silnic vzpostavljamo in omogočamo vse in nič ...

Zvenimo, resoniramo, gibljemo, zasedamo prostor, čas in vse vmes ...

Brane Zorman

Kronolit – kamen, čas, konkretno in umišljeno

Jata C ustvarja dela o vsakdanjih rečeh, ki pa širijo prostor poslušanja in misli o velikih temah. Prek naravnega okolja, snovi, kamnin, ledu, ljudi, ki stopajo po kamnitih tleh in ledu, o živalih, ki hodijo in letajo nad njima, se skupina zvočnih umetnikov loteva vprašanj o času in prisotnosti, bližini in oddaljenosti, svetu in našem mestu v njem, življenju in njegovem minevanju. Na delu je umiritev in izostritev teh razmislekov skozi poslušanje.

Po delih *drobljenjeLEDU* in *Bibaret JC210120* v svojem tretjem delu *Kronolit* beepblip, OR poiesis, Boštjan Perovšek, Bojana Šaljić Podešva in Brane Zorman izhajajo iz poskusov zvočenja kamnin različnih oblik in na različne načine. Ta različnost – različni snemalni pristopi, preobrazbe zvočnega gradiva, vstopanje v skupno izvedbo, načini oblikovanja dela kot kompozicije, žive izvedbe skupine, instalacije – je hkrati zavestna odločitev in naravna posledica dejstva, da so člani skupine ustvarjalci že zelo jasno vzpostavljenih opusov in poti delovanj. Kljub temu poslušalec v svoji navigaciji po delu, njegovi izvedbi in prostoru oglašanja lahko prepozna en fokus in vsaj dva avtorska trajektorija – konkretni in spekulativni.

Z vidika zvočnosti kamnina sprva ne razpre izrazito širokega polja. Kljub poskusom z litofoni v tradicijskih glasbah, zlasti v Aziji, a tudi drugje, poskusom gradnje modernih kamnitih glasbil ali zanimivim glasbenim delom, ki so nastala s kamnitimi zvočnimi objekti (Christian Wolff, Pauline Oliveros ...), to ni snov, ki bi se hitro in gibko vdala glasbeni rabi. Bogatejši material pa se odpre s tradicijo konkretne glasbe, ene od tradicij, ki se je dotikajo člani Jate C. Konkretni pristop, *musique concrète*, dejanje snemanja, premikanja snemalne

perspektive do snovi, ki zveni in šumi, akt fiksiranja zvoka, njegovega preobražanja in vnovičnega poslušanja in montaže, seže globlje od poskusov konvencionalne glasbene rabe kamna. Najde in ojači tihe poke, prasket in šume, oblike kamnite snovi, ki se prevajajo v profil zvočnih mas. Ravnanje s krhkim gradivom, poseg z roko in s snemalno tehnologijo med zrna peska ustvari glasbilo, ki z vsem znano igro s peskom ponazarja postopek granulacije, dela z najkrajšimi zvočnimi enotami, z mikrozvokom, kar je veliko glasbeno odkritje tradicije elektroakustične glasbe. Delo z zvočnim – ali kamnitim – zrnom istočasno predaja občutek krhanja, krušenja, ranljivosti narave.

Če konkreten pristop dela s kamnino kot prisotnim in otipljivim obravnava in gnete objektivno resničnost, pa se pojavlja tudi perspektiva, ki meri drugam. Je subjektivna, spekulativna in preizprašuje pomene kamnine, ki so onkraj njene gole materialnosti.

V *Kronolitu* ne slišimo le bogastva kamnitih šumov. Delo s kamnitimi ploščami in njihovimi resonancami vnaša v kompozicijo globoka odzvanjanja, le da se ta ne zdijo lastna kamnini sami. V smislu glasbene zvočnosti stoji kamen – kot to pojasnjuje Mladen Dolar – nem, negiben, inerten v skrajni opoziciji do glasu, ki zveni, govori, nenehno beži in je s svojo pojavnostjo, potekom, pojavljanjem in ponikanjem v času kar najbolj podoben pojavnosti glasbe. Da se kamen lahko oglasi, če že ne zapoje, morajo umetniki v posnetke svojega rokovanja z njim, drobljenja, prevajanja njegove podobe v zvok poseči s svojo aktivnostjo, z izpostavljanjem ter preobražanjem frekvenc. Tako se še izraziteje pokaže, da umetniško delo z naravnimi elementi ni preprosto prikazovanje, ozvočevanje narave, ampak so vedno posredi spraševanja, iskanja umetnikov, njihova subjektivnost. Ali drugače – raziskovanje narave se bolj kot iskanje ene in določene

resnice o njej izkaže za niz odzivov narave na človeški poskus njenega razumevanja.

Zdi se, da se v nizkotonskih frekvencah, vtkanih v *Kronolit*, v hrumenju, vrednem mogočnih kamnitih blokov, ki so jih zvočni umetniki srečevali med snemanji, skriva star sentiment. Romantično občutenje sublimnega, kakor ga je razdelal Immanuel Kant, občutenje neznansko, nepredstavljivo, celo zastrašujoče velikega, se dogodi ob opazovanju – ali poslušanju – nečesa, kar s svojo neomejenostjo, velikostjo prav zaradi neomejenosti in brezobličnosti prekrije doumljivo formo. Značilen primer sublimnega je občutek ob človekovem občudovanju narave. To občutenje, ki se bržkone pojavi pri delu s kamninami, razmišljanju o njihovi preteklosti, starosti, vlogi v oblikovanju sveta, kakor ga poznamo in poseljujemo, poleg skladanja s kamnitimi šumi kliče k vpeljavi drugačne glasbene volje v sam po sebi nem in pasiven kamen. Nizkotonske in počasi poodmevajoče uzvočitve velikosti in starosti struktur se kažejo kot pot vzpostavljanja razmisleka o življenju na površju Zemljine litosfere.

Celo več, lahko bi pogledali – in slišali – še širše in Zemljo postavili v širši kamniti in zvočni kontekst. Ena najbolj fascinantnih glasbenoteoretičnih domislic je starogrška *musica universalis*, harmonija sfer. Pitagorejska ideja govori o tem, da mora enakomerno kroženje planetov v vesolju povzročati neznanski zvok, saj tudi enakomerno gibanje predmetov, na primer strune, oddaja zven. Zato urejeno kroženje nebesnih teles ustvarja posebno glasbeno harmonijo. Nemogočo, a prelepo misel o planetarnem zvoku bi lahko zaslišali tudi v modulacijah droneov, bordunov *Kronolita*.

Med konkretnim šumom kamnitih površin, tihimi trki zrn peska, iskanjem notranjih, spekulativnih, umišljenih zvenov in glasov kamnin, med kompozicijo, navdahnjeno izvedbo in instalacijo, ki preoblikovane zvočnosti vrača v kamnito snov, se kljub razpršenosti kaže en namen – sestavljanje zvočnega dela kot leče, naravnane tako, da skoznjo lažje in drugače (za)slišimo svet. Tudi svet kamnin.

Primož Trdan

Čas v kamen, znanost v umetnost

Čas je četrta, neprostorska, razsežnost sveta. Skupaj s starodavnimi enotami, v katerih ga merimo, nam vsakodnevno vstopa v misli, besede in dejanja. Zaradi njega tečemo v službo ali zdolgočaseno vzdihujemo, ko čakamo na vlak; s časom v mislih se nam orosijo oči, ko gledamo stare fotografije. Ob vsej svoji vsakdanjosti pa čas ohranja nekaj globoko zagonetnega, celo paradoksalnega. Kadar ga gledamo skozi človeške oči – edine, ki so nam neposredno na voljo –, se zdi neskončen v smislu nepreglednega niza človeških generacij, ki bi mu rekli večnost, po drugi strani pa ga nikoli ni dovolj. Izkustveni čas teče v spremenljivem, včasih sinkopiranem ritmu; enkrat stoji, drugič divja, in se skozi človeško življenje neusmiljeno pospešuje. Tempo fizikalnega časa v vsakdanjih okoliščinah pa je nasprotno vedno monotono enak, z njim umerjamo naše dneve in življenja, premike nebesnih teles v vesolju in zgodovino našega planeta. Če stopimo še korak nazaj, opazimo, da je čas eden in sta hkrati tudi vsaj dva. Prvi je v domeni našega izkustva in kolektivnega spomina, v njem se dogaja jutranja kava, vzbrsti pomlad, odvijajo se osebne in kolektivne zgodovine. Potem je tu geološki čas, zapisan v obliki in sestavi narave, ki nas obdaja. Za ljudi ta čas obstaja zgolj v domeni izurjenih predstavnih zmožnosti, v njem se razvijajo in izumirajo biološke vrste, rastejo in se nato spet obrusijo gorstva, razpirajo in zapirajo se oceani. O teh dogajanjih priča oblika kontinentov, ki se ujemajo kot delčki sestavljanke, in njihova geološka zgradba. Govorijo zgodbe, kot je tista o Indijskem podkontinentu, ki se je nekoč odcepil od ene celine, prečkal ocean in desetine milijonov let kasneje trčil ob drugo ter povzročil dvig Himalaje. Na podoben način je del Afriške plošče, na katerem danes leži dobršen del Slovenije, ob trku z Evrazijo povzročil dvigovanje Alp.

Izkustveni čas je neskončen, geološki pa se menda začne ob velikem poku in ima morda tudi svoj konec. Prvega merimo v sekundah, urah in desetletjih, drugega v tisočih, milijonih in milijardah let. Tako izkustveni kot geološki čas sta linearna. Naša življenja tečejo od rojstva do smrti, otroštvu vselej sledi mladost, zrelost in starost. Podobno nas v geologiji pravilo superpozicije uči, da se mlajše plasti vselej nalagajo na starejše in so tako vedno zgoraj. A tako izkustveni kot geološki čas imata tudi elemente cikličnosti. V življenju spet in spet ponavljamo rutine, vedenja, napake, Zemlja se suče v ritmu dni, let in orbitalnih ciklov, v podobnih okoliščinah se odvijajo podobni pojavi, četudi so v času in prostoru zelo oddaljeni. Med enim in drugim časom ni nobene razlike, geološki čas ni nič drugega kot zares debela skladovnica izkustvenih časov. Toda nekje v procesu grmadenja in dodajanja ničel se naša predstava odlepi od številk in zazeva praznina. Lahko rečemo milijarda let, a na to težko pripnemo karkoli določenega, saj prestopimo mejo dometa človeškega izkustva. Ker pa se človeška početja in razmišljanja vejajo v vse smeri, prej ali slej neizbežno privedejo do vprašanj, na katera brez miselnega izleta v domeno geološkega časa ne moremo najti odgovorov: Od kod prihajamo ljudje? Kako je nastal naš svet in njegovi elementi? Kako je prišla lupina morske školjke na goro? In tako naprej in naprej. Zato se je razvil koncept geološkega časa, konteksta, v katerem se razmišljata geologija in evolucijska biologija, dotika pa se tudi mnogih drugih področij človeškega delovanja in razmišljanja. Na neki trivialni ravni je geološki čas danes prisoten v vsakdanjem življenju. V kontekstu tega časa poslušamo novice o podnebnih spremembah, gledamo filmske spektakle o ledeni dobi, med igračami, s katerimi se igrajo otroci, so svoje mesto našli tudi dinozavri.

Zapisi globokega časa so mnogoteri in vseprisotni v geološki in geomorfološki zgradbi narave, ki nas obdaja. Kamnine nosijo vrsto različnih zapisov, posebej usedline, v katere se ob času nastanka vpiše cela vrsta informacij. Sodobna znanost nam ponuja vse večji nabor orodij, s katerimi lahko te zapise prebiramo. Mineralna sestava usedlin, velikost in oblika delcev, ki jih tvorijo, orientacija magnetnih delcev v različnih plasteh, deleži različnih izotopov posameznih elementov in mnoge druge značilnosti kamnin govorijo zgodbe o morjih, ki jih je pojedel čas, o svetovih pred pojavom človeka, sesalcev in vretenčarjev, o podnebnih spremembah davne preteklosti in njihovih povezavah z ustrojem našega osončja, o mirnih obdobjih in globalnih katastrofah … Zapisanih zgodb je brez števila, z razvojem znanosti jih spoznavamo vse bolj podrobno.

Eno od najbolj neposrednih oken v sfero globokega časa so fosili, fizični dokazi o obstoju življenja v davni preteklosti. Z njimi se ukvarja paleontologija, ki preučuje zgodovino življenja na Zemlji. Ena od najbolj pogostih skupin fosilov je povezana s haptofiti, kozmopolitsko skupino enoceličnih planktonskih morskih alg in eno od glavnih skupin fitoplanktona v sodobnih oceanih. Celice večine znanih vrst, imenujemo jih kokolitofori, so prekrite z mozaikom kompleksno zgrajenih kalcitnih ploščic – kokolitov, ki so pri vsaki vrsti drugačni. Merijo le nekaj tisočink milimetra in se kot fosili pogosto ohranijo v usedlinah v izrednih množinah skozi daljša časovna obdobja, milijone in desetine milijonov let. Med drugim so ti delci pomembna komponenta oceanskih sedimentov in laporovcev v flišnih klifih slovenske Istre in gričih Slovenskih goric. Fosilni zapis o skupini se začne v srednjem zemeljskem veku v zgornjem triasu, ko se v morskih usedlinah pojavijo najstarejši znani kokoliti. Začetek samostojne evolucijske poti te skupine pa se je začel že mnogo prej, globoko v

zemeljski prazgodovini ali predkambriju pred več kot milijardo let. O tem pričajo molekularne ure, zapis, ki ga čas pusti v nukleinskih kislinah, osnovnih gradnikih življenja, v katerih se postopoma kopičijo mutacije. Haptofiti, tako posamezni osebki in populacije kot celotna skupina, se tako kot vsa druga živa bitja odzivajo na vplive okolja. Skozi eone časa določene vrste izumrejo in se razvijejo druge. Zaradi tega lahko na podlagi identitete kokolitov, ki jih najdemo v sedimentih, določimo starost kamnin in značilnosti okolja, v katerem so nastale. V drobnem ščepcu primernega vzorca najdemo na tisoče primerkov, ki bolj ali manj natančno odražajo sestavo združbe teh planktonskih bitij, ki je naseljevala osvetljeni del svetovnega oceana na določeni točki časa in prostora. S povezovanjem znanja o fosilih, fizičnih in strukturnih značilnostih sedimentov in njihove kemične sestave ter razlik med temi parametri v zaporednih plasteh lahko prepoznamo pretekle dogodke, jih opišemo, postavimo v sosledje ter tako gradimo rekonstrukcije sveta iz davne preteklosti. Pomagajo nam razumeti sedanji trenutek v širšem časovnem kontekstu in nudijo podlago za predvidevanja o tem, kaj nas čaka v prihodnosti.

Znanstveno raziskovanje je v svojem bistvu pot vznemirljivih idej in razpiranja obzorij. To bi lahko obenem trdili tudi o umetnosti. Tako znanost kot umetnost v družbi uživata posvečen status in sta obdani z avro presežnega, obe sta trdovratno usmerjeni k postavljanju vprašanj in iskanju odgovorov, obe zavezani resnici. Ki je izmuzljiva, znanost in umetnost pa globoko človeški. Če je človeškost tista, ki umetnost osmišlja in generira njeno moč, se ji poskušamo v znanosti, posebej v naravoslovju, v največji možni meri izogniti. To je seveda možno samo do neke mere, saj sistem vrednot, družbeni položaj, politično prepričanje in številne druge osebne okoliščine v pomembni meri pogojujejo naravo znanstvenih spoznanj, do katerih se raziskovalec

dokoplje. Ob tem se ljudje pogosto tudi (z)motimo. Zato se znanost dogaja v neusmiljenem kontekstu nenehnega boja za svoj prav. Vsak rezultat vsake raziskave, vsak del vsakega koraka in predvsem vsaka trditev – vse je podvrženo strogi in potencialno uničujoči kritiki. Znanost izhaja v temu namenjenih časopisih, kar izide je kompromis avtorjev z vizijo urednika in recenzentov. Proces je poln krivic in napak, v njem jasno odseva neenakost sveta. Kritika znanosti pa se z objavo njenih spoznanj šele zares začne. To je z oklepi padlih resnic posuto bojišče, kjer se surovo zatre vsak poskus prehitevanja ali razhajanja med podatki in njihovimi interpretacijami. Ob vseh hibah ta sistem deluje in je najbolj zanesljiva pot do napredka po poti resnice, ki jo poznamo. Tudi umetnost trepeta pred kritiko, a prebiva v človeški naravi bolj sorodnem svetu. Spoznanja, ki jih prinaša, so visoko individualna in prav v tem leži njihova univerzalnost. Ambicija umetniškega dela ni nikoli prevelika, suvereno koraka po svetovih, kjer znanost napreduje le tipaje. Vsakič, ko se umetnost obregne ob znanost, s svojo svobodno maniro vnese prepih v včasih zatohle laboratorije in raziskovalne postaje ter omogoči znanstvenikom, da v svoji človeškosti zaslutimo potencial, ne oviro.

Zato sem z veseljem pozdravil Jato C, ko je lepega dne pristala na ne ravno muzikaličnem polju globokega časa. Ta nevsakdanji bend se izogiba preprostim rešitvam in svoje zvočne svetove gradi na terenu, kamor umetnost stopi le redko. Na veliko različnih načinov je raznorodna in raznolika skupina ustvarjalcev, ki si pravi Jata C, hkrati dovolj harmonična, da leti v skupno smer. V ambiciozni umetniški maniri posega izključno po velikih temah, opaja se s kompleksnostjo pojavov in je zaverovana v natančno isti svet, v katerega strmimo znanstveniki. Člani Jate C v coni globoke kontemplacije z uporabo sodobne tehnologije igrivo poplesujejo po spolzkih poteh

znanstvenih konceptov in strumno korakajo po poligonu za raziskovanja večplastnih pojavov (še zdaleč ne samo človeškega) življenja in (še zdaleč ne samo človeškega) sveta. Svoja dela predrzno snujejo na sovražnem teritoriju neskončnih baz podatkov ter kompleksnih in fragmentarnih resnic, od koder posegajo po nič manj kot absolutnem. Skupaj smo debatirali o fosilih, kamninah, globokem času. Iz nepričakovanih smeri so mi postavljali vprašanja, kakršnih ne slišim na znanstvenih simpozijih, in me primorali, da na znane pokrajine pogledam iz neznanih zornih kotov. Na skupnem sprehodu po poteh nanofosilov v globokem času so me s svojim nalezljivim navdušenjem opomnili, kako fascinanten je svet, ki nas obdaja. Pogled skozi mikroskop ni še nikoli zvenel bolje.

Miloš Bartol

Jata C

beepblip [Ida Hiršenfelder] je zvočna umetnica in arhivistka, ki jo zanimajo bioakustika, eksperimantalna glasba in zvočno prostorjenje. Bila je članica zvočnega kolektiva Theremidi Orchestra (2011–2017), trenutno pa je članica skupine Jata C, ki raziskuje bioakustiko in zvočne ekologije. Njena samostojna albuma *Noise for Strings, Vol. 1* (2019) in *Noise for Strings, Vol. 2* (2020) sta izšla pri založbi Kamizdat.

OR poiesis [Petra Kapš] je umetnica in raziskovalka zvoka, slušne percepcije in poetičnega performansa. Besedo razširja v sonornih sferah časprostor poezije. Ob vseh digitalnih razsežnostih ji je središčna fizična prisotnost telesa.

Boštjan Perovšek, umetnik, skladatelj in oblikovalec zvoka, sklada eksperimentalno elektroakustično glasbo. Njegova posebnost je ustvarjanje bioakustične glasbe, ki temelji na zvokih živali, posebej žuželk. Sodeluje s skupino SAETA, ustvarja pa tudi glasbo za film in gledališče, performanse, multimedijske instalacije ter zvočne krajine za muzeje in galerije.

Bojana Šaljić Podešva se kot skladateljica najbolj posveča raziskovanju zvoka kot entite, ki vpliva na poslušalca fizično in vsebinsko. Njena glasba se razpenja med popolno abstrakcijo in kompleksnimi semantičnimi jeziki. Je prejemnica vrste nagrad za koncertna dela, scensko in filmsko glasbo.

Brane Zorman je intermedijski umetnik, skladatelj, zvočni manipulator, producent in kurator. Zvočna dela komponira za gledališke, intermedijske in plesne predstave. Elektroakustične solo skladbe in improvizacije z domačimi in tujimi umetniki izvaja v prostorskem zvoku. V odnosu do zvoka in prostora razvija različne strategije, tehnike, dinamične in interaktivne module, snema in reinterpretira zvočne krajine in z uporabo sofisticiranih orodij kreira elektronske in akustične zvočne skulpture.

Photo: Maša Pirc, Kino Šiška archive.

Photo: Maša Pirc, Kino Šiška archive.

Primož Trdan

Chronolith – Stone, Time, Concrete and Imagined

Miloš Bartol

Time in Stone, Science in Art

My name is Petra. In the ancient Greek language, πέτρα, *pétra* means "rock, stone". The word may not be connected to the Hindu पत्थर, *patthar*, "stone", from the Sanskrit word प्रस्तर, *prastara*, but the reading in Slavic languages is meaningful. When I hold a stone in my palm, when I place my palm on a rock, the touch is ancient. The ancient touches the timelessness within me. When I listen to the cosmos, I eavesdrop on the resonances and echoes within my mineral-water body. Life petrifies in diverse rhythms, as a stone it seems almost eternal, yet eternity is not a state of potentiality, it is a negation of life. The thought of eternal life has always been unbearable to me. How do I hear a stone? How can a stone hear me? Surely, each time it is different. What did a stone hear up until the moment of our current experiential reality? Terra ∞ Cosmos. Yet, even the amount of sound matter compressed into my material existence is terrifying. Somewhere (everything) deeply "exists", memory drips from the cracks, echoing in the quiet. I read a stone in the texture of its skin, in its writings, images, landscapes, architectures ... it speaks to me, I hear it, acousmatically, through the ventricles of its materiality. The wind wakes up the undulation of the sea, tectonics oscillate the stones under and on the surface of the planet, the voice awakens me, all the way to an individual cell, it feels like a wave inside my skin, something in me responds, trembles; if only I could determine the amount and interference of the sound wave myself, when it (often violently) forces me to yield to the chaos of the urban environment. The planet metabolises, structures itself through life, from one form to another, through eons of planetary and stellar rotations, an infinite variety of life forms ... into an ecstatic, unfathomable future ... finitude? The scream of a stone. Terra is an awake dreamer, she likes to sonically amplify traces, compressed into her own materiality. I listen.

Petra Kapš (alias OR poiesis)

When I think of a stone, I think of a star and a grain of sand
me in it
the ear in an ear
the space wrapped around the colliding of atoms
matter, which perceives itself
as it grows cracks moults births cocoons sips sings rips penetrates
its flowing from inorganic into organic and back again into the fragile
karst of fossils
billion-year-long cycles of the ocean, darkness under the sediment of
the rhythms of the grand rhythm
the dance of atoms and quarks and subs
of tremors deep in the centre
which are me, which are tomorrow stone, sand, dust, echo ...
between the forces of nanostructures,
which are the noise of the universe and life,
a noise, which is a song.
And I think about our civilization, yours and mine
which obscures knowledge from the googols of decibels of ballast
of extruded fear
a noise, which is a destructive noise (and do not say that it is music).
In the veins of bedrock lies our potential that we connect these
energies into an arabesque of our time,
that you and I are the noise this song needs.

Bojana Šaljić Podešva

The Imaginary Body Chronolith

I perceive our planet as a body travelling through the endless universe. Comprised of particles, the size of which I can imagine since I can see them, even hold them in my hand, others I only feel and/or imagine. When I try to combine the two or connect one to the other, I create a composition of sound forms since sound accompanies every movement. What about the apparently static forms and bodies of myriad components, such as stones, minerals? Are they really only hard objects that seem immovable in time and space? Within them exists frozen time, a record of previous eras, waiting on the future. A look at them draws apparent images for me. From these masses form imaginary bodies, which we can place neither on the shelf nor on the ground since they are mainly sound.

When I look at them from an appropriate distance, I recognise and listen to the imaginary.

Boštjan Perovšek

I am. Co-beside. I am inside, outside, out of, everywhere. Connected and separated into a neighbourhood of equal and similar, I co-habitate. I am matter, accumulated energy, a state of potentials fluctuating in the imperceivable impulses in established stable relations. In serene dedication, latent anticipation, time-undefined changes, processes of de-composition and absences – I exist. I am an indispensable part of the whole, I influence and function in a continuous process of co-dependence and co-existence. I am Co-beside, a part of the community of matter – this, that and the other – which, in countless forms and bonds, exists in countless states and conditions that it establishes, transforms and co-shapes ...

My essence and existence are dependent on Co-besides. But without my, your, their presence, there is no stability, balance – after which we otherwise yearn, and yet we joyfully destroy. We sound, resonate, move, occupy space. As YES, as NO, as POSSIBLY. On the extreme points of the vectorially stretched forces, we establish and enable everything and nothing ....

We sound, resonate, move, occupy space, time and everything in between....

Brane Zorman

Chronolith – Stone, Time, Concrete and Imagined

Jata C creates sound works about everyday things that expand the space of listening and thinking about grand themes. The group of sound artists passes through the natural environment, matter, rocks, ice, people walking across the rocky ground and ice, and animals walking nearby and flying above to arrive at questions of time and presence, proximity and distance, the world and our place in it, life and its transience. At work is the softening and sharpening of these deliberations through listening.

Following the works *ICEmelting* (2019) and *Bibaret JC210120* (2020), in the third, *Chronolith* (2023), beepblip, OR poiesis, Boštjan Perovšek, Bojana Šaljić Podešva and Brane Zorman originate from experimentations with the sonority of variously shaped stones in a variety of ways. That variety – the various recording procedures, transformations of sound material, entering a shared performance, the ways of forming the works as compositions, as live group performances, as installations – is simultaneously a conscious decision and a natural consequence of the fact that the members of the group are creators of already very clearly established oeuvres and working methods. And yet, in navigating the work, its performance and the space of its sounding, the listener can detect one focus and at least two authorial trajectories – one concrete and one speculative.

In terms of sonority, stone itself does not open a particularly wide field at first. Despite efforts with lithophones in traditional music, especially in Asia but also elsewhere, despite attempts at constructing modern stone instruments or interesting musical works created by stone acoustic objects (Christian Wolff, Pauline Oliveros ...),

stone is not a material that quickly and flexibly surrenders to musical use. We find richer material with the tradition of concrete music, one of the traditions which the members of Jata C touch upon in their work. The concrete approach, *musique concrète* – the act of recording, of shifting the recording perspective to a substance that rings and rustles, the act of fixating sound, transforming it, listening to and editing it, again and again – goes deeper than the attempts of the conventional musical use of stone. This approach finds and amplifies the silent cracks, scratches and disturbances, the shapes of rocky substances, which translate into the profile of sound masses. Treating the fragile material, intervening by hand and with recording technology between the grains of sand, creates an instrument which, using familiar sand play, illustrates the procedure of granulation, working with the smallest units of sound, with microsounds, a great musical discovery in the tradition of electroacoustic music. At the same time, working with sound – or stone – granules delivers a sense of disintegrating, of crumbling, of the fragility of nature.

If the concrete approach of working with stone as something present, tangible, grasps and kneads objective reality, another perspective appears that aims elsewhere. It is subjective, speculative and desires to inquire about the meanings of stone situated beyond its sheer materiality.

Namely, in *Chronolith*, we hear not only the richness of stone whisperings. Working with stone slabs and their resonances brings deep reverberations into the composition, only they do not seem inherent to the stone itself. In the sense of musical sonority, a stone stands – as Mladen Dolar explains – silent, motionless, inert in utter opposition to the voice, which resounds, speaks, constantly escapes

and through its manifestation, unwinds, appears and disappears in time, thus most resembling the occurrence of music. For a stone to make sound, if not sing, the artists must intervene with their activity by positioning and transforming frequencies in their recordings of handling it, of pulverizing it, of translating its image into sound. This further underscores that artistic work with natural elements is not simply a representation or sonification of nature; the questioning, the search of the artists themselves, and their subjectivity are always in the centre. In other words, more than the quest for one specific truth about it, researching nature reveals itself as a series of nature's responses to human attempts at understanding it.

It seems that in the low-toned frequencies woven into *Cronolith*, in the humming, worthy of the majestic stone slabs that the sound artists have encountered during recording, hides an old sentiment. The romantic experience of the sublime, as elaborated by Immanuel Kant, the experience of the unknowable, the unimaginable, even the fear-inducing greatness, happens while observing – or listening to – something which, with its limitlessness and greatness, conceals the fathomable form precisely because of its limitlessness and formlessness. The characteristic example of the sublime is the awe inspired by our adoration of nature. This sensation, which probably arises when working with stones, when thinking about their past, their age, and their role in shaping the world as we know it and have settled it, alongside composing with the sounds of stones, calls to the introduction of another musical will in the – itself mute and passive – stone. The low-tones and slowly reverberating sounding of the size and age of these structures reveal themselves as a means of reflecting about life on the surface of the Earth's lithosphere.

We could look – and listen – even wider and place the Earth in the greater stone and sound context. One of the most fascinating musical theories is the Ancient Greek *musica universalis*, the harmony of the spheres. The Pythagorean concept speaks about how the steady orbiting of the planets in the universe creates an unknown sound, just as the steady movement of objects, such as strings, emits a tone. Thus, the orderly orbiting of the celestial bodies creates a similar musical harmony. We can also hear the impossible yet magnificent notion about planetary sound in the drone modulations, the continuously sounding tones of *Cronolith*.

Amidst the concrete clamour of stone surfaces, the silent collisions of grains of sand, the search for the internal, speculative, imagined sounds and voices of stones, amidst the composition, the inspired performance and the installation that transmits transformed sonorities into stone material, despite all the dispersion, one purpose emerges – the construction of a sound work as a lens, focused in a way so that through it we hear the world more easily and differently. Even the world of stones.

Primož Trdan

Time in Stone, Science in Art

Time is the fourth, non-spatial, dimension of the world. Together with the ancient units used to measure time, it gets into our minds, words and actions every day. It makes us hurry to work or sigh in boredom as we wait for a train; it brings tears to our eyes when we look at old photographs thinking of time gone by. For all its mundanity, time holds within something profoundly enigmatic, even paradoxical. From a human perspective informed by our perception and experience, it appears endless in the sense of indefinite series of human generations that we might call eternity, as, on the other hand, there is never enough of it. Experiential time moves in a variable, sometimes syncopated rhythm: at one moment, it stands still; at another, it rages, accelerating mercilessly through human life. By contrast, the pace of physical time in everyday life is always monotonously the same; we use it to calibrate our days and our lives, the movements of the celestial bodies in the universe and the history of our planet. Taking another step back, we realise that time is a single one, yet there are simultaneously at least two. The first is within reach of our experience and collective memory; it's the time of morning coffee, spring awakening, unfolding of personal and collective histories. Then there is geologic time, engrained in the form and structure of nature. For humans, it exists only within reach of trained imaginative capacities; it's the time of evolution and extinction of biological species, mountain ranges forming and then breaking apart, and oceans opening out and retreating. The shape of the continents that fit like pieces of a jigsaw puzzle and their geological structure bear witness to these events. They tell stories like that of the Indian subcontinent, which rifted from one continent, crossed an ocean, and tens of millions of years later collided with the Asian mainland causing

rapid uplift of the Himalayas. Similarly, the Alps rose due to the collision of a detached fragment of the African Plate – which carries much of Slovenia – and Eurasia.

While experiential time is infinite, geologic time allegedly begins at the Big Bang and may eventually end. The former is measured in seconds, hours and decades, the latter in thousands, millions and billions of years. Both the experiential and geologic times are linear. We go through life from birth to death; childhood is always followed by youth, maturity and old age. In geology, according to the principle of superposition, newer rock beds lie on top of older strata. However, there is also a touch of cyclical in the experiential and geologic times. We repeatedly fall victim to the same routines, behaviours and mistakes; the Earth goes around in the rhythm of days, years and orbital cycles and similar conditions engender similar phenomena despite being distant in time and space. There is no difference between the two times; geologic time is nothing but a very fat pile of experiential times. However, somewhere in the process of piling and adding zeros, our notion becomes detached from the numbers, and we are faced with a void. We can say a billion years, but it is hard to pin anything definite on that because we cross the line of the human experience range. But since human actions and thoughts go in all directions, sooner or later, they inevitably raise questions that cannot be answered without a mental excursion into geologic time: Where do we come from? How did our world come into being? How did a seashell end up on a mountain? And so on. This is why the concept of geologic time has developed, a context in which not only geology and evolutionary biology are considered but extends to many other areas of human activity and thought. Geologic time is present in today's life at a somewhat trivial level. In its context, we hear the

news on climate change, watch movies about the ice age, and find dinosaurs among children's favourite toys.

The records of deep time are manifold and ubiquitous in geological and geomorphological structure of nature. Rocks bear a variety of different records, in particular sedimentary rocks, which store a broad range of information at their formation. Modern science provides a growing pool of tools that facilitate reading these records. The mineral composition of sediments, the size and shape of the grains (particles) that form them, the orientation of magnetic particles in different strata, isotope ratios of radioactive elements and many other features tell stories of seas devoured by time, of the pre-human, pre-mammal and pe-vertebrate worlds, of climate changes in the distant past and their associations with the structure of our solar system, of periods of serenity and global catastrophes.... Stories are innumerable, and with the advancement of science, we get to learn more and more details.

One of the "highways" into the realm of deep time is fossils, the physical evidence of life in the ancient past. They are dealt with by palaeontology, which studies the history of life on Earth. One of the most common groups of fossils is related to haptophytes, a cosmopolitan group of unicellular planktonic marine algae and one of the significant members of the phytoplankton in the modern oceans. The cells of the most known species, coccolithophores, are enclosed in a mosaic of complex calcareous plates or scales – coccoliths – unique to each species. They are only a few micrometres across and often preserved as fossils in sediments in extraordinary abundance over long periods, millions and tens of millions of years. Among other places, they are an essential component of ocean sediments and

marlstone in the flysch cliffs of Slovenian Istria and the hills of the Slovenske gorice. The fossil record of the group goes back to the Mesozoic Era, in the Early Triassic, when the oldest known coccoliths can be found in marine sediments. However, the convergent evolution of this group started much earlier, deep in the Earth's prehistory, the Precambrian, more than a billion years ago. This is evidenced by molecular clocks, the record left by time in nucleic acids, the basic building blocks of life, in which mutations accumulate over time. Haptophytes, both individual organisms and populations, as well as the whole group, respond to environmental influences like any other living being. Over eons of time, certain species disappear and others evolve. For this reason, the identity of coccoliths found in sediments can be used to determine the age of the rocks and the characteristics of the environment in which they were formed. A tiny pinch of a suitable sample contains thousands of specimens that more or less accurately reflect the community structure of the planktonic creatures that inhabited the sunlight zone of the ocean at a particular point in time and space. By combining our knowledge of fossils, the physical characteristics, sedimentary structures and their chemical composition, and the differences between these parameters in the sequence of sedimentary beds, we can identify, describe and sequence past events and build reconstructions of the world of the distant past. They help us understand the present in a broader temporal context and provide ground to make predictions of the future.

At its core, scientific research is a journey of exciting ideas and expanding horizons. The same applies to art. Both science and art enjoy a sanctified status in society, emanating an aura of the transcendent; they both relentlessly ask questions and look for

answers and are committed to truth, which is elusive, while science and art are deeply human. If humanity makes art meaningful and generates its power, we try to avoid it as much as possible in science, especially in the natural sciences. This is only possible to a certain extent, of course, as value systems, social standing, political beliefs and many other personal circumstances condition to a significant degree the nature of scientific findings concluded by a researcher. Not to mention that it's only human to make mistake(s). Consequently, science is exposed to a relentless and constant struggle to be correct. Every result of every research, every part of every step, and, especially, every claim is subject to rigorous and potentially devastating critique. Science is published in dedicated journals, and what comes out is a compromise between the authors and the vision of the editor and the reviewers. The process is abundant in injustice and error and reflects the world's inequality. And the critique of science only begins with publishing its findings. It is a battlefield littered with the trappings of fallen truths, where any attempt to anticipate or diverge between the data and its interpretations is brutally crushed. For all its faults, however, the system works and is the most reliable way to progress along the path of truth that we know of. Art, too, is subject to critique; however, it lives in a world closer to human nature. The insights it provides are highly individual, which makes them universal. A work of art is never too ambitious; it sovereignly investigates the worlds where science only takes baby steps. Whenever art challenges science, in all its freewheeling manner, it brings fresh air into sometimes stuffy laboratories and research institutions, allowing scientists to view their humanity as a potential, not an obstacle.

I was delighted to welcome Jata C when they landed one fine day in the not-so-musical field of deep time. This unconventional band avoids easy solutions and builds their sound worlds on terrain somewhat unfamiliar to art. In many different ways, the diverse and varied group of artists who call themselves Jata C is at once harmonious enough to fly in a common direction. In an ambitious artistic manner, it exclusively takes on big themes, grapples with the complexity of phenomena, and is enveloped in precisely the same world as scientists. In a zone of deep contemplation, the members of Jata C, using modern technology, lively dance on the slippery slopes of scientific concepts, exploring the multifaceted phenomena of (far from only human) life and the (far from only human) world. They brazenly conceive their works in the hostile territory of infinite databases and complex and fragmentary truths, reaching for nothing less than the absolute. We debated fossils, rocks and deep time. I was asked unexpected questions that I usually don't hear at scientific symposia, which made me engage with familiar landscapes from unfamiliar angles. On our walk along the paths of nannofossils in deep time, their infectious enthusiasm reminded me of how fascinating the world is. Looking through a microscope has never sounded better.

Miloš Bartol

Jata C

beepblip [Ida Hiršenfelder] is a sound artist and archivist, interested in bioacoustics, experimental music and sound spatialisation. She was a member of the Theremidi Orchestra (2011–2017) and is currently a member of the Jata C group for bioacoustics and sound ecologies. Her solo albums *Noise for Strings, Vol. 1* (2019) and *Noise for Strings, Vol. 2* (2020) were published by the Kamizdat label.

OR poiesis [Petra Kapš] is an artist and researcher of sound, sound perception and poetic performance. She extends the word in sonic spheres of time-space poetry. Along with the digital dimensions, her focus is nevertheless the physical presence of the body.

Boštjan Perovšek is an artist, composer and sound designer who composes experimental electro-acoustic music. His special is creating bioacoustic music based on the sounds of animals, particularly insects. In addition, he collaborates with the SAETA group and creates music for film and theatre, performances, multimedia installations and soundscapes for museums and galleries.

Bojana Šaljić Podešva dedicates most of her time as a composer to the research of sound as an entity that affects the listener both physically and in terms of content. Her music spans from complete abstraction to complex semantic narratives. She is the recipient of several awards for her concert compositions, incidental music and film scores.

Brane Zorman is an intermedia artist, composer, sound manipulator, producer and curator. He composes sound works for theatre, intermedia and dance performances. He performs electro-acoustic solo pieces and improvisations with local and foreign artists in surround sound. Working with sound and space, Zorman develops various strategies, techniques, dynamic and interactive modules, records and reinterprets soundscapes, and by way of sophisticated tools, he creates electronic and acoustic sound sculptures.

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