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# Carbo Vegetabilis

## Ugljenari – kope – vuglenice

»Karbuna, karbuna «,  
je jedan brižan Ćić po Opatije kričal,  
i karbun prodaval,  
kega mu j tovarić va voziće pejal.  
A Ćić je neboh već storil račun  
još kad je va šume palil karbun ...

(Drago Gervais: ĆIĆ)

“Paljenje” drvenog ugljena, kao osnovne ili dopunske djelatnosti, danas je gotovo iščezlo. Međutim, arhivski podaci, putopisi i bilješke svjedoče o vrlo raširenoj višestoljetnoj tradiciji na ovim prostorima, a referentna građa potvrđuje ju u gotovo nepromijenjenom načinu proizvodnje, ne samo u bližem okruženju, nego i na širem europskom prostoru. Recentna terenska istraživanja potvrđuju kontinuitet te tradicije što je održava nekolicina ugljenarskih obitelji koje svake godine mukotrpno grade ugljenice, karbunice, kope, vuglenice, naročito u Istri, Gorskom kotaru i Hrvatskom Zagorju. Po uzoru na neke primjere iz zapadne Europe, prisutna je tendencija “konzerviranja” i “revitalizacije” ugljenarstva u parkovima prirode, a možda i u eko(etno)-muzejima na otvorenom.

**Ključne riječi:** proizvodnja drvenog ugljena, ugljenarenje, Hrvatska

**D**rveni ugljen, ugalj, karbun, ćumur koristio se tijekom gotovo čitave povijesti čovječanstva, a prvi tragovi po-  
tječu još od prije 30.000 godina kada su njime risani prvi spiljski crteži. Njegova pro-  
izvodnja datira još iz brončanog doba i bila je ključna za razvitak metalurgije sve  
do prijelaza na fosilni ugljen početkom 18. stoljeća. Međutim, drveni ugljen (*carbo*

*vegetabilis*), i kao sirovina i kao gorivo, još se i danas koristi širom svijeta u različite svrhe: u metalurgiji pri proizvodnji fero-legura; u kemijskoj industriji kao tehnološki važan materijal za dobijanje *aktivnog ugljena*; u medicini (još ga je Hipokrat preporučivao kao antitoksik!); u vojnoj industriji (barut), u domaćinstvima i ugostiteljstvu najčešće kao gorivo za roštilje.<sup>1</sup>

Višestoljetna tradicija proizvodnje, «paljenja» drvenog («slatkog») ugljena u brdsko-planinskim i šumom bogatim predjelima, na ovim prostorima, zauzimala je važno mjesto u gospodarstvu, ne samo pojedinih obitelji, nego i regionalnih zajednica sve do sredine 20. stoljeća.

Nove sirovine, energenti, tehnologije, promjene u načinu života, drugačije potrebe i novi sustavi vrijednosti, u znatnoj su mjeri utjecali na nestajanje pojedinih, ili većine, tradicijskih obrta i zanimanja iako su neki od njih stoljećima bili temelj obiteljske egzistencije, ili pak dopunska djelatnost privremenog ili sezonskog karaktera kao što je to slučaj i s proizvodnjom, distribucijom i primjenom drvenog ugljena.

Usprkos promjenama i vremenima koja im objektivno nisu «sklona», neke se tradicije održavaju transformirane ili prilagođene različitim folklornim sadržajima, društvenim prilikama i kulturnim miljeima kao njihova druga ili preoblikovana «egzistencija».

No, budući da je proizvodnja drvenog ugljena ponajprije bila zanimanje kojim se na tehnološki poprilično neefikasan i nerentabilan način bavila ruralna populacija, iz navedenih razloga, takva je djelatnost bila neminovno osuđena na nestajanje iako postoje intencije da se neki lokaliteti obilježe i uvrste u «poučne staze» u kontekstu kulturnog turizma.

Ipak, i na početku 21. stoljeća ta se tradicija može evidentirati u tragovima ili iznimno kao još «živuća», i to od Čičarije, Gorskog kotara i Like, preko Korduna, Banije, Hrvatskog zagorja do nekih predjela Slavonije.<sup>2</sup>

Makar kratki i sporadični, nesumnjive su dokumentarne vrijednosti zapisi, osvrti i prikazi o životu *ugljenara*, a mogu se datirati kontinuirano unazad više od sto godina, bilo da se temelje na neposrednom opažanju i utiscima, zabilježenim sjećanjima samih

<sup>1</sup> Ilustracije radi, o širokoj upotrebi drvenog ugljena u manufakturama, industriji i prometu kao pogonskog sredstva dobivenog na bazi suhe destilacije i pretvaranog u «upojni plin» potvrđuju podaci iz Francuske za 1818. godinu, kada je neki vlasnik kovačnica htio da plin proizveden iz drvenog ugljena upotrijebi za loženje svojih peći. Međutim, tek se 1840. godine zbilja prva industrijska primjena plina od drvenog ugljena u Engleskoj, te u jednoj tvornici porculana u Francuskoj. Prema njemačkim izvorima, prvi pokušaji u tom pravcu izvedeni su 1842. u talionici željeza St. Stephan u Štajerskoj.

Potražnja za drvenim ugljenom i danas je razmjerno velika i stalno raste. Ukupna svjetska potrošnja procjenjuje se na 40,5 milijuna tona godišnje, od čega samo 19,8 milijuna tona u Africi. Suvremena proizvodnja realizira se u posebno konstruiranim pećima i retortama u kojima se obavlja termička obrada drveta. Sadržaj čistog ugljika iznosi 84-90 posto, ovisno o vrsti drveta (bukva, breza, grab, hrast, smreka, jela i sl.) i tehnologije.

*ugljenara (ugljara, karbunara, paljera, vugleničara)* ili pak na recentnim podacima s terena gdje se još uvijek «pali» ugljen u *ugljenici, kopi, mulcu, k(a)rbunici, vuglenici*.<sup>2</sup>

Još 1898. godine, prirodoslovac, geograf i putopisac Dragutin Hirc piše: «Tko putuje šumama Gorskoga kotara, susreta tu *i ugljare* i vidi njihove ugljenice, na kojim pale drveni ugljen. Gledao sam često, kako sa strma briega odvažaju potrebna drva saonicama. Ugljar sjedne s prieda, upravlja rudom i spušta se nizbrdice. Kada je drva stovario oprti saonice na ledja i nosi ih opet uzbrdice ... U Bakru, Kraljevici, Novom i Senju veliki su magazini u koje se svaža ugljen iz Gorskog kotara. Prema zadnjem izvještaju trgovačko-obrtničke komore u Senju od god. 1891. dovezeno je u ova mjesta 8,254.160 kg. ugljena, a u sam Bakar 3,773.560 kg, a dočim su god. 1892. dovezli 7,968.110 kg.» Dalje citira Vaclava Aderlea (prema *Oesterreichische Forest-Zeitung*, 1890, br. 366):

«Jedva što je topli, primorski vjetar raztopio snieg što je punih šest mjeseci pokrивao obronke Gorskog kotara, jedva da su se prvi ružičasti cvietovi kukurieka i bliedo-žuti viencići jaglaca iznad bukova šušnja i tek što je zima izumrla u proljeću: vrvi na primorskim planinskim putevima, odjekuje od mora jednolična pjesma muža, žene i djece: Ugljari iz Primorja dolaze u šume Gorskog kotara.

U goru ponesu kotao za palentu, palentar, škrinju sa ruhom, košare, barilce ili lodricu za vodu, pa se nude gospodaru, kojeg već od prije poznaju. Glede plaće i cene za kuruzno brašno, koje je skupo, a kadkad i lošo primaju od gospodara, sporazume se naskoro. Obskrbe se živežom za jedan tjedan, a onda hajde u goru, koja kao uspavana opet oživi od primorske pjesme. Najprije si sagrade kolibicu od trupaca i stupova, a potrebite daske – podškornice, prinesu iz piljenice. Poslije odabere *poglavar* sgodno miesto usred «revira» takozvano «kopište» gdje će paliti ugljen.

Kod ognjišta zabiju dva stupa, pričvrste na nj tanku dasku po kojoj planinkinja tri puta dnevice batom udara pozivajući ugljare k objedu.

Još si sprema lahke saonice, grablje, lopate, a ujedno valja misliti i na vodu, jer je nestašica njezina u onim vapnenim krajevima velika. U dubokoj škrapu ili ponikvi potraže snieg, pokriju ga šušnjem čuvajući ga tako od topline, a kad treba, tope ga uz vatru na daski i piju.

<sup>2</sup> Ugljenari su i tema različitih književnih žanrova, bilo da se pojavljuju kao neki od likova ili su glavni likovi. Pored Gervaisove pjesme *Ćić*, Ivan Goran Kovačić spominje gorostasnog ugljenara Franinu Brdara i njegovo druženje s čobanom Jačicom Šafranom (*Mrak na svijetlim stazama*). U bajci Vilhelma Hanffa, kao i u filmu Paula Verhovena *Ledeno srce*, mladi ugljenar Peter Mink sklapa «vražji ugovor» s Michaelom kako bi svoje «toplo srce» zamijenio «ledenim» što je uvjet da uđe u «bolje» društvene krugove. Manuel Bandiera napisao je djelo *Dječaci ugljenari*, a i u *Pinokiu* Karla L. Kolodija pojavljuje se ugljenar. Dva se pak ugljenara pojavljuju u lužičkosrpskoj bajci *Neposlušni sin* itd. Postoji i sintagma «ugljenarska nevjera» koja aludira na oprez, lukavstvo i nepovjerenje ugljenara s obzirom na njihov način života.

«Karbonari» su u Italiji u 19. stoljeću bili članovi tajne organizacije koja se borila za ujedinjenje Italije, a pojavili su se u Napuljskoj kraljevini za vrijeme Napoleonskih ratova. Njihove organizacije djelovale su u Francuskoj i Portugalu. U gastronomiji je poznat umak *carbonara*, kao i istoimeno jelo od tjestenine s jajima i slaninom i eventualno s parmezanom koje su pripremali *carbonari umbri*.

Opskrbiv se svim potrebnim, krenu na posao. Na kopištu naslaže najizkusniji ugljar (palir) cjepanice, koji drugi granjem i zemljom pokriju i sada zapale vatru, pri čemu valja paziti, da se cjepanice ne upale već da se samo smude. Ugljen voze u Rieku, Bakar, Kraljevicu, gdje su veliki magazini, a odavle ga krcaju na *traghetima* za Jakin, Chioggiu, Mletke i dalje. Život naših ugljara pun je poezije, kao i znoja, muke i truda. Muče se od uranka do mraka, muče preko noći, a koji spavaju, krše si kosti na tvrdoj zemlji. Danas ih ubija žarko sunce, sutra ledena bura ili ciča studen, oluja, prašina i kiša, nu oni su ipak zadovoljni što im odaje njihova pjesma.

Nikada nisam čuo ugljara da kune, pa ni onda, kada sam ga našao u zategloj kiši, gdje se gušio u gustu dimu. Upitav kojega, kako mu je odgovorio bi: A dobro, gospodine, samo da Bog da zdravlje i palentu!

Svagdaji kruh im je palenta, koju si kadkad zaslade prženom slaninom, a jedu i kupus, krumpir, slani primorski sir, kapulu (luk crljenac), a u blagdan i malo pršuta (šunke). Nađu li u šupljoj bukvi ili *pušini*, puhove, uguše ih dimom i izpeku na ražnjiću.

Na dva panja polože dasku, posjedaju po kladama i ručaju zajedno, osim onih, koji su na kopištu.

Nedeljom i na blagdane silaze u selo da se pomole Bogu. Ranom već zorom oživi planina od djevojačke pjesme. Kasnije dolaze mužkarci, koji poslie mise obračunaju s gospodarom, prime brašno popiju s drugovima čašu vina i opet se vraćaju u visoku planinu do svoje *ugljarice ...*» (Hirc, 1993: 47, 48).

Stotinjak godina kasnije, Josip Lučić Botrin za područje Kastavštine kao uspomenu na dječjačko doba zapisuje: «Delat v palerije je nekada bilo štimano, pa su muški z ovega kraja raji šli va goru lego va fabriku, al na neko drugo delo va grade ...

Dobrahno smo se odmaknuli od onega vremena kada je čuda judi z halubajskih sel hodilo va goru palit ugjeve, al krbun. Sako leto su bili va gore, more se reć, od snega do snega, a to j' bilo okol četiri meseci. Ugjeve su delali od dreva ko njin je lugar bulal, a to su bile bukve ke nisu bile za drugo leg za goret. Posečena i na meru spiljena drva slažu va ugjenice ke zgjedaju kot nekakove kupoli, pa se zovu kopi, a ako su manje, onda su mulci. Mesto kade se to dela zvali su kopišće.

Va kopu se hiti oganj ki va njoj tinja, pa se od drv store lagnjice kada se ohladi ugjen. Dreveni, al slatki ugjen je lagak i čist aš nima sumpora i kad zgori ostane malo popela. Ovi ugjen boje topli lego drva, a duperali su gava nekeh obrteh ko ča j' va kovačije, pa i va metalurgije. Teško j' bilo zamislet peglanje prez ugjena, a rabil je i za storit barut. Deca su se već od maleh nog parićevala za paleri, pa su zajeno kad su finili pučku školu šli va goru za hlapci, a kašneje su kot pajdaši delali va kunpanijah. Kunpanije su bile najviše četiri pajdaši, a najstareji je bil kot poslovođa.

Već va aprile mesece kunpanija je šla va goru sneg zagrnut va štrike va ken će palit, al negde blizu, kade najdu najboje mesto za pohranit sneg. To store tako da čuda snega nahitaju na kup i pokriju z debelen vejen. Kad malo zatepli, va vejen se store i črvi, al je voda snežnica sejeno dobra za pit i kuhat. Kad to odbave, gredu doma i čekaju dokla malo stepli.

Va prvoj polovice maja, kada je gora već okopnila od snega gredu posensega, al sakunpak, va goru. Nekada su sobon nosili oruđe, robu i hranu, a kašneje su to vozili furmani za više kunpanij. Muka za palentu i špeh bila j' glavna, a zapravo i jedina hrana va gore, ku su skupno nabavjali i duperali, a se drugo ča j' ki zel bilo j' samo za njega. Prvo delo va gore bilo in je storit kolibu, ku su zvali kućica, va koj će morat živet jenu trećinu leta. Kolibu bi storili od bukvić ke su poslagali jenega na drugega, pokrili s feltron, a na čele kućice su od dasaka storili vrata.

Zajeno na ulaze, blizu vrat, je bilo ognjišće ograjeno s većemi kamiki, a uz bukova bruna al' brvi saki paler za se stori klupu za spat ku su zvali klada. Nad klupun su storili policu na koj je saki držal svoje stvari, ke su mu saki dan rabile (cukar, kafe, žlicu i drugo). Pred kućicun je bilo korito zdubeno od malo debje bukvi, a zgora njega otesane daščice na ke se j' stavjal sneg s kega je vod snežnica tekla va korito.

Ovako je to nekako zgjedalo, kad san jeno leto ob školskih ferijah bil nekuliko dan s kunpanijun na Suhen va koj su bili: Ludve Botrin, Drago Ivanićev, Dolfo Patrijarkov i moj otac ki je bil najstareji, pa je bil kuhar i vodil kumpanijsko delo.

Zmišjan se da mi je ta mića kućica jako lepo zgjedala, al va njoj ni bilo više mesta za storit još jenu klupu za spat, pa san moral ležat na vejen koj bilo nahitano po zemje. Spali smo obučeni, kako je to bilo odvavek va palerije, ma sejeno smo se morali z nečeren pokrit, aš je va šume na preko se morali z nečeren pokrit, aš je va šume na preko tisuće metar visoko, po noće friško i po lete. Va to vreme, skoro na seh kopišćeh okol Suhega, gorele su kopi i mulci s keh se j' rastezal dim, tako da j' sa šuma po njen vonjala. Kad se j' jutro počelo danit, a tu dobu su već si paleri stanjeni, bukvi i jelvi su se kupale va modrikastoj maglice dima. Prvu noć va palerskoj kućice malo san se mrhonjil na trden ležaje i poslišal kako va škuroj noće va šume ni baš se mirno.

Onako sanen čul san da se j' neki po noće stajal, obuval se i z lapešon šal na kopišće kade je gorela kopa. To moraju delat saku noć da ne bi oganj na mesto ugjena od drv storil popel. Ako oni ki obahaja kopu vidi da neč ne gre kako trebe, seh zbudi i redu popraviti ono ča ne vaja. Ako je noć bila mirna, paleri se jutro samo obuju i gredu do korita, zajmu malo vodi i malo ofriškaju obraz i oče... Paleri su za rušnjju, obed i večeru jili samo, palentu golicu, kunpiricu ili polevaču al' cicmaru i pili mrzlu vodu snežnicu. Ako j' pak dažjevno vreme naberu puži s kemi se more popraviti palerski jelovnik.

Kako leto pomalo odhaja, paleri pašće pofinjevat delo va gore, aš bi već za malun Stomorinun moglo zavrnut slabo vreme. Kad su već so ugjeve dali ča, a neč spravili i va svoje konobi, onda poberu i brašku i krbini (nagorjeli ostaci drva) ki će jin dobro prit za na oganj po zime. Ako drugo leto nete palit va toj štrike, pejaju doma i drevo od kućice. Kad bi prišli doma bilo j' dosta brigi kako va kable, al va kablūše ziprat črni prah od ugjeva ki njen je šal malomanj pod kožu.» (Lučić Botrin, 2005.)

Zapisi su ovdje predstavljeni u cjelini kao izvorna svjedočanstva, ne samo zbog činjenice da potvrđuju, u različitim vremenskim razdobljima, ugljenarenje kao važnu gospodarsku djelatnost koja je okupljala cijele obitelji ili organizirane «kumpanije» na tim

područjima, nego i zato što su dragocjen prikaz izuzetno teškog zanimanja, životnih uvjeta i socijalnog statusa.<sup>3</sup>

Danas su u Gorskom kotaru (od Čabra i Šegina preko Risnjaka do Osojnika i Jadrča kod Vrbovskog), Kastavštini i Halubju (gdje su Marčelji i Viškovo praktično sjeverna gradska naselja Rijeke) i nedalekom području oko Učke, u Ćićariji, rijetki «paleri», i «krbuneri» koji se bave tim mukotrpnim poslom tako da i domaći, mlađi naraštaj, jedva da zna što znači kada neki od *palera* kaže «ren zapalit mulca».

*Karbunice, kope* i *mulci* (manje kope napravljene od ostataka nekarboniziranih drva) počinju se graditi vertikalno slaganjem drva u krug u dvije ili tri razine na *kopišću* tako da se od kružne osnove prema vrhu svodi u formi stošca. U prvom, donjem redu uglavnom su cjepanice dužine (visine) oko dva metra, u drugom oko metar, a u trećem, na vrhu, oko 30-40 centimetra. Po tako formiranom stošcu visine do tri metra slaže se navlaženo lišće (perje), a i trava. Na to dolazi ugljena prašina (braška) od ranijih paljenja pomiješana s vlažnom zemljom. Na tako složenoj *karbunici* naprave se rupe (*škulje, pipe*) kroz koje će izlaziti dim i u procesu sagorijevanja zatvaraju se od vrha prema dnu. Znak da gornje redove rupa treba zatvarati pojava je gustoga plavog dima, a onda se otvaraju one niže sve dok se proces, koji traje, zavisno od količine drveta (najčešće 20-30 do 60-70 kubika), odnosno veličine karbunice.<sup>4</sup> (sl. 2.01)

Međutim, na području Ćićarije postoje dvije tradicije paljenja, ovisno o tome pale li se od podnožja ili od vrha «glave», iako se neznatno razlikuju konstrukcijski detalji. Naime, ako se pali od dna, u sredini se ostavlja manji prostor «zgor kojega su tanka drva, a ti prostor izlazi kroz vrata na koja će se zapaliti karbunica. Vrata moraju doći do samega središta». Ako se pak pali od vrha «još dok se dela karbunica napravi se *srce* ... od tankega, dobro suhega driva ... Puštamo otprto na vrhu dok se ne napravi dobar oganj. Onda se od vrha na dno stavljaju drva od deset centimetri. To mi zovemo *bokanje*. *Boka* se tri do četiri dana, a drva se stavljaju tri puta na dan. Nakon toga zapremo vrh; uzmemo en pleh i ga pokrijemo z zemljom.» (Bijažić, 1999: 134-138).

Prvi način potpaljivanja karakterističan je za jugozapadne padine Učke u selima Nova Vas, Šušnjeva, Brdo, Letaj, Brest (Kaljevski), Brgudac, a drugi na sjeveroistoku: Žejane, Mune, Dane, Jelovice, Vodice kao i u Ćićariji graničnom slovenskom području, Brkinima.

<sup>3</sup> Prema nekim podacima, paljenje ugljena u ovim krajevima može se datirati u 16. stoljeće, a proizvodnja je dobila zamah osnivanjem željezarskih manufaktura u 17. stoljeću u Čabru i Brodu na Kupi.

Godine 1875. francuski je novinar i putopisac Charles Yriarte na putu po Ćićariji zapisao: «Svi su oni ugljari, žive bez obrazovanja, bez tradicije, bez uspomena; njihove su žene bliže životinjama nego ljudima i osuđene su na najteže poslove. One su te što u mrkloj noći voze putevima svoja duga niska kola ... dok Ćić leži na vrećama ...». Između dva svjetska rata potvrđeno je da su dvije žene «šle prodatat krbun na *Volosko* i prišal je pulicaj, zapisal ih i sudac njen je osudil tri dni pržuna».

<sup>4</sup> Od kubika drveta (najboljim smatraju bukovo) dobije se 100 kilograma karbuna.

U 19. i prvoj polovici 20. stoljeća ugljenarilo se i u neposrednoj blizini Zagreba, u Samoborskom gorju i na istočnim obroncima Medvednice u području Bistre.<sup>5</sup>

Takav, stari, izvorni način gradnje *karbunica* i *kopa* zadržao se u nekim slučajevima sve do najnovijeg doba u Istri i Gorskotom kotaru (gdje se uz list još pokriva i slamom, paprati, kukurozovinom i piljevinom), a samo rijetko kada ga koriste istočnije gdje je zamijenjen zidanjem od cigle (opeke) kupolastih *vugljenica* i *ugljenara*, *ugljara*.

Tijekom terenskog rada u proljeće 2007. godine nemalo sam bio iznenađen kada sam u Hrvatskom zagorju, na sjevernim obroncima Ivančice, u selima Prigorec i Ivanečka Željeznica, naišao na stare *vuglenice* posve slične ćičarijskim i gorskotomarskim. (sl. 2.02)

U tom području *vugleničarstvo* je tijekom 19. i sve do polovice 20. stojeća bilo vrlo rašireno zanimanje. Zapravo je postojala simbiotska povezanost ugljenara talioničara i kovača budući da su u neposrednoj blizini dugo u funkciji bili rudokopi iz kojih je eksploatiran cinkov karbonat i olovna ruda galenit, a u nedalekoj Kuljevčici postojala je talionica cinka što je dalo zamaha takvoj djelatnosti u drugoj polovici 20. stoljeća, a poslove su koordinirali *Societe Anonime Matalurgique Austro-Belge* i *Bečko industrijalno ugljenarsko društvo*.

Nekoliko obitelji sve do danas povremeno zapali *vuglenicu*. I dok su ranijih godina s drvenim *vuglenom* snabdijevali željeznicu i neka varaždinska poduzeća, zatim ciglanu u Gornjem Tužnom, pa čak i metaluršku industriju u Lendavi, danas ga, pakiranog u papirnatim vrećama, prodaju najviše ugostiteljskim objektima u široj okolici. Ponekad čak, tijekom ljetne sezone, uspiju preko nakupaca plasirati i veće količine u neka turistička mjesta u Dalmaciji.

*Vuglenica* se počinje raditi na kružnoj osnovi tako da se uspravno slažu drva oko četiri *gabrova* (grabova) kolca da bi se onda pokrivala (*grasanje*) lišćem, jelovim granama, ugljenom prašinom, zemljom i «šumskim pijeskom». Najteži je posao kada se gazi, «pešta» ili, kako kažu, «boka se 5-6 puta» tako da se otvori *glava* koja je uslijed spuštanja ugljena meka, a posebno kada se poslije 10-15 dana *štora*. *Štoranje*,

<sup>5</sup> *Vuglenari* su radili u Gornjoj Bistri, Poljanici i na lokalitetu Markov travnjak. Odnedavno postoji namjera da se to i obilježi izgradnjom makete *vuglenice* u sklopu projekta «Poučna staza» u Parku prirode Medvednica. Jedna «kopa» s malom ugljenarskom kolibom već je postavljena na poučnoj stazi «Leska» u Nacionalnom parku Risnjak, a u sklopu predstavljanja starih obrta i zanimanja na Poklonu na Učkoj (iznad Opatije i Veprincea) od jeseni 2007. improvizira se izgradnja i paljenje manje «karbunice».

Na vrlo raširenu tradiciju bavljenja ugljenarstvom, s tipičnim ugljenicama (njem. *Kohlenmeiler*) formiranim od zemlje, lišća i «braške» u švicarskim, francuskim i bavarskim Alpama, te na području Schwarzwalda, ali i na znatno širim područjima bogatim šumom, od Apenina do Transilvanije, danas podsjećaju razne manifestacije koje se upriličuju u nekim naseljima, regijama i parkovima prirode ili «etnomuzejima na otvorenom» kao što su, na primjer, Neerdar, Kyllburg, Tharandt, Dorchberg, Bad Kohlgrub, Lüsslingen, Hirschberg, Odenwald, Heesenpark, Freilichtmuseum Stübing, Natur Hohe Wald – Niederesteeich, Westfälisches Freilichtmuseum Hagen, Parco Nazionale della Majella itd.

Velike količine bjelogoričnog drveta, a najviše bukovog, osim za ugljenarenje, korištene su i za dobivanje «pepeljike», potaše i za «paljenje vapna». Pepeljika (kalijev karbonat) dobivala se «luženjem», a koristila se kao jedna od glavnih sirovina u proizvodnji stakla sve do sredine 19. stoljeća. Tako su, uz ugljenare, od Gorskotomara do Papuka u Slavoniji, šumu iskorištavali i *pepeljičari*.

raskopavanje *vuglenice* i vađenje ugljena obavlja se u ranim jutarnjim satima zalijevanjem vodom i hlađenjem.

Polazeći istočnije, od Sv. Ivana Zeline prema Kalniku, u ljeto iste godine *vuglenice* i brojnije *vugleničare* pronašao sam u Zrinščini, i poneku obitelj u Draškovcu i Zaistini kao i dalje u potkalničkim selima Globočec, Duga Reka, Glogovnica, Stupe, Apatovac, Ludbreški Ivanec.<sup>6</sup>

*Vuglenice* (ponekad kažu i peći) mahom su zidane do visine oko tri metra. Na razini tla (*podnice*) nalazi se ulaz kroz koji započinje punjenje drvima i koji se zatvara željeznim metalnim vratima kada *vuglenica izgara* i kroz koji se vadi dobijeni ugljen. Na vrhu je *vuglenice* otvor (*grot*) kroz koji se *nameće*, do kraja puni *vuglenica*, i do njega se naslanja drvena konstrukcija, platforma (*trepa*) preko koje se donosi drvo za paljenje.

U donjem dijelu *vuglenice* slažu se veće cjepanice, a prema vrhu tanji komadi promjera do osam centimetara (*priglin* i *runt*), te *gule* – otpad koji se ne da kalati. Pali, *vužga* se od vrha, a tijekom izgaranja rupe *dimnice* zatvaraju se od vrha prema dolje.

Proces izgaranja (*dogarjanja*) u takvim *vuglenicama* u prosjeku traje desetak dana, a onda se hladi 4-5 dana prije nego što se otvori, a ugljen vadi i pakira. (sl. 2.03)

Istočnije od Kalnika, u manjim se količinama drveni ugljen pali još u brdovitim predjelima u okolici Našica i Đakova, a zadnji ugljenari iz svojih *kopa* snabdijevaju ugoštiteljske objekte i vikendaše.

Izuzimajući dijalektalne regionalne posebnosti, zanimljivo je da se u tradicijskoj ugljenarskoj terminologiji na cijelom području gdje se proizvodi(o) drveni ugljen «provlače» pojmovi *k(a)rbini* – nedovoljno ugljenisana drva, *mulci* – manje *kope* od ostataka, *braška* – ugljena prašina, *bokanje* – nametanje, gaženje, dodavanje, dopunjavanje, ponegdje i *kuhanje* kao naziv za proces. U kojoj se to mjeri može povezivati s preuzimanjem i širenjem djelatnosti koja je znatno više bila zastupljena u zapadnim dijelovima, a koliko s migracijama stanovništva, pogotovo iz Gorskog kotara prema istoku.

Danas u Hrvatskoj postoji samo jedan industrijski proizvođač drvenog ugljena. To je “Belišće-d.d.” koje ga radi na bazi suhe destilacije, te pakira i prodaje kao *EKO GRIL BRIKET*. Postoji i nekoliko manjih obrtnika koji koriste zidane peći i uglavnom su

<sup>6</sup> U većini sela oko Kalnika *vuglenice* su se do unazad 20-30 godina gradile na stari način, a pokrivane su zemljom. Neke su znale biti građene od čak više stotina metara drva i gorile su oko 45-50 dana, a ugljen se vadio i do dva tjedna. Sam je posao bio vrlo naporan i zahtijevao je angažiranje više radnika uz neprekidno dežuranje, održavanje *vuglenice* i opasne intervencije kada su jake kiše prijetile da je razvale ili kada «se preboka i žar pobjegne u stranu» ili ako se *lomi* pri vrhu (*spušta od ramena*), čineći tako veliku rupu u sredini. Sada su rijetke, a novije (peći), koje se mogu višekratno koristiti nekoliko godina zidane su od cigle i omazane, ožbukane *mortom* – smjesom vapna i cementa. Tu tehniku gradnje preuzeli su od nekoliko majstora zidara – ugljeničara iz zapadne Srbije, iz okolice Kosjerića, koji su im prve sagradili sredinom osamdesetih godina prošloga stoljeća. Od tada, na primjer, u Zrinščini članovi brojnih obitelji (Rebek, Posilović, Mojećec, Škuratan) sami grade i održavaju zidane «peći» – *vuglenice*.

Zanimljivo je da su *vugleničari* iz Zagorja početkom 20. stoljeća na današnjem Britanskom trgu u Zagrebu (Ilički trg, poznat kao *Mali plac*) prodavali drveni ugljen i spavali u obližnjoj kući koju su Zagrepčani nazivali «Vuglenarski hotel».



kooperanti nekoga drvoprerađivačkog pogona (na primjer u Križevcima). Slične ugljenare još uvijek rade u Garešnici i Buzetu.

Činjenica je da ugljenari, kojima je ta djelatnost bila tradicija kroz više naraštaja, bez obzira na neke prilagodbe i unapređenja u tehnici gradnje ugljenara, «odbrojavaju zadnje dane». Preostali lokaliteti na kojima se još uvijek pali drveni ugljen na tradicijski način zapravo korespondiraju sa suvremenošću tek kao toposi lokalnog imaginarija.

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Review

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# Carbo Vegetabilis Charcoal Burners, Pits & Kilns

*'Karbuna, karbuna',  
je jedan brižan Čić po Opatije kričal,  
i karbun prodaval,  
kega mu j tovarić va voziće pejal.  
A Čić je neboh već storil račun  
još kad je va šume palil karbun...*

(Drago Gervais: ČIĆ)

*'Burning' of charcoal, as a basic or an additional activity, has today almost completely disappeared. However, archival data, travel writings and notes witness on a rather common tradition in this region, lasting for several centuries, and the relevant readings confirm it in an almost identical form, not only in the neighboring area, but also in wider region of Europe. The recent field research has confirmed the continuity of this tradition with several charcoal burning families, who engage in this demanding activity every year and build charcoal kilns (ugljenice, karbunice, kope, vuglenice), mostly in the regions of Istria, Gorski Kotar and Hrvatsko Zagorje.*

*Following the examples from the Western Europe, today there exists a tendency to 'conserve' and 'revitalize' charcoal burning in Nature Parks, or maybe even in ethno (eco) open air museums.*

**T**he usage of charcoal (*ugalj, karbun, ćumar*), has been known almost during the entire history of humankind and the first traces of its usage date back 30000 years ago when it was used for making the first cave drawings.

The production of charcoal dated back to the Bronze Age when it was crucial for the development of metallurgy, which was dominant till the discovery of fossil fuels at the beginning of the 18<sup>th</sup> century.

However, charcoal (*carbo vegetabilis*) is still used both as a raw material and as fuel in many parts of the world, for different purposes. In metallurgy it is used in production of ferro-alloys, in chemical industry as technologically valuable material for obtaining the active coal, in medicine (Hippocrates used to recommend it as antitoxic), in military industry (gunpowder) and in houses and restaurants for barbecues.<sup>1</sup>

Several centuries long tradition of producing, 'burning', charcoal ('sweet coal') in the wooded hills and mountains in various regions of Croatia, had an important role in the economy, not only of respective families, but also of the entire local communities until the middle of the 20<sup>th</sup> century.

New raw materials, energy sources, technologies, changes in the way of life, different needs and new systems of value, have significantly influenced the disappearance of some or the majority of traditional crafts and occupations, even though some of them were the basis of subsistence for some families for centuries, or an additional occupation of temporary or seasonal character as was the case with the production, distribution and usage of charcoal.

In spite of the changes and passage of time which is not 'on their side', some traditions have persisted, transformed or appropriated for different folklore manifestations, social occasions and cultural contexts as the second or modified 'existence'.

Since the production of charcoal was primarily adopted by rural population and was a technologically inefficient and non profitable occupation, such an activity was, for all the above reasons, doomed to disappear even though now there are some initiatives to single out certain localities and organize 'educational paths' in the context of cultural tourism.

However, even at the beginning of the 21<sup>st</sup> century, this tradition can still be found in fragments or, very exceptionally, as a still living tradition in the regions of Čičarija, through Gorski Kotar and Lika, over Kordun, Banija and Hrvatsko Zagorje, to certain regions of Slavonija.<sup>2</sup>

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<sup>1</sup> Just to illustrate the point, charcoal was used in manufactures, industry and traffic as propellant – coal gas was obtained from charcoal by dry distillation – and this was confirmed by data from France in 1818 when an owner of a number of blacksmith's shops wanted to use the gas produced from charcoal for burning his ovens. However, the first industrial usage of the gas produced from charcoal occurred in England in 1840 and in a porcelain factory in France. According to the German sources the first attempts in this direction occurred in an iron smeltery in St. Stephan's in Styria.

Today the demand for charcoal is still relatively high and it keeps rising. The total world consumption is estimated to 40,5 million tons per year, out of which 19,8 million tons is used in Africa. Contemporary process of production is conducted in specially designed ovens and retorts used for heat treatment of wood. The percentage of pure carbon reaches from 84% to 90%, depending on the type of wood (beech, birch, hornbeam, oak, juniper, fir) and technology.

<sup>2</sup> Burning of charcoal in traditional way, outside Croatian borders, is today still preserved in some regions of Serbia and Bosnia. It is common in some parts of Western Serbia – Šumadija (near Guče, Lučani, Ivanjica, Kosjerić and Kraljevo) and in Negotinska Krajina (near Negotino, Bor, Majdanpek); in Central Bosnia, especially near Fojnica and in the region of Vareš and the mountains of Vranice and Zvijezda, and in some regions in the Northwestern Bosnia. Those charcoal kilns (*čumurane, žež(e)nice, žege*), for 'cooking, smelting' (*kuhanje, kadenje*) of charcoal were made from the mixture of soil, leaves, fern and mud or made

Of unquestionable documentary value are, although very short, written accounts, notes and stories on the lives of charcoal burners (*ugljenari*), dating from the period of the last hundred years or so, some of them based on direct observations and impressions, some written as the memoirs of the charcoal burners (*ugljari*, *karbunari*, *paljari*, *vugleničari*) themselves and some collected during field research in the regions where the charcoal is still ‘burned’ in the kiln (*ugljenica*, *kopa*, *mulac*, *k(a)rbunica*, *vuglenica*).<sup>3</sup>

In 1898, a natural scientist, geographer and travel writer, Dragutin Hirc, wrote: ‘The person traveling through the forests of Gorski Kotar could meet *ugljari* and see their *ugljenice*, charcoal kilns, where they burn the coal. I have seen many times, how they use sledges to transport the timber down steep slopes. A burner sits on the front and uses a rudder to climb down the slope. When he unloads the timber, he puts the sledge on his back and climbs up the slope again.... In Bakar, Kraljevica, Novi and Senj there were large warehouses to which the coal was brought from the whole region of Gorski Kotar. According to the last preserved report of the Chamber of Trades and Crafts from the town of Senj, from 1891, 8, 254 160 kgs of coal were brought to these town, out of which 3, 773 560 kgs were brought to the town of Bakar alone, while in 1892, 7, 968 110 kgs were brought.’ He continued by quoting Vaclav Aderle (from *Oesterreichische Forest – Zeitung*, 1890, nr. 366):

‘And scarcely did the warm coastal wind melt the snow which for the whole of six months had been covering the slopes of Gorski Kotar, and the pink flowers of hellebore and bright yellow primrose garlands appeared over beech bushes and the winter died out in spring: the mountainous paths were full of life, resounding with the unison song of men, women and children: charcoal burners were coming from the coast to the forests of Gorski Kotar.

To the forests, they brought a kettle for boiling polenta, chest with their clothes, baskets, glasses or water pots and they would offer their services to the owner whom

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of brick, were circular, 3-4 meters high, with dome or a cone-like structure on the top. The central part of the whole construction (in central Bosnia) was *vito* and the logs (*cjepanice*, *lašajnderi*, *ceplje*, *podžežnice*) were arranged around it, up to its top called ‘cap’ or ‘head’ (*kapa* or *glava*). In some of these villages the production of charcoal was directly linked to blacksmiths’ shops and smelters.

<sup>3</sup> Charcoal burners were frequent characters in many literary genres, both as main characters and subsidiary characters. Besides Drago Gervais in his poem ‘Ćić’, Ivan Goran Kovačić also mentioned a charcoal burner of gigantic statue, Franina Brdar, and his friendship with the shepherd Jačica Šafran (‘Mrak na svijetlim stazama’). In the fairytale by Wilhelm Hanff and in Paul Verhoven’s movie ‘The Heart of Ice’, a young charcoal burner Peter Mink, made a ‘devil’s contract’ with Michael and exchanged his ‘warm heart’ for a ‘heart of ice’, which was a condition for entering ‘better’ social circles. Manuel Bandiera wrote a novel ‘Charcoal Burning Boys’, there was also a short appearance of a charcoal burner in Karlo L. Kolodi’s ‘Pinocchio’ and two burners were mentioned in a folk’s tale from the region of Lužička Serbia, ‘A disobedient son’, etc. There was also an expression ‘the charcoal burner’s infidelity’ which alluded to the cunningness, caution and distrust needed in this line of work.

‘*Carbonari*’ in the 19th century Italy were the members of a secret organization which fought for united Italy, and they appeared in the Kingdom of Naples during the Napoleon Wars. Their branches were active in France and Portugal. In gastronomy, the famous sauce *carbonara*, and the pasta of the same name made of eggs, bacon and Parmesan cheese, got their names after these *carbonari umbri*.

they knew from previous years. They would quickly agree upon the salary and the prices of corn flour which they obtained from the owner and which was quite expensive. They took the groceries needed for a week and off they went to the forest, which would come live again with their songs. First they would build themselves a cabin, from logs and wooden poles, and obtained all the boards they needed in the nearby saw-mill. Afterwards the head of their group would select a suitable place (*kopište*) for burning coal.

At the hearth they would thrust two poles into the ground and connect them with a thin board and a woman would hit it with a mallet three times to summon the burners to lunch.

They also packed light sledges, rakes, shovels and they also had to think about water, because it was quite scarce in these limestone regions. They would search for snow in deep pits and hollows, covered it to preserve it and when needed, they would melt it on wooden boards and drink it.

They would take in all the supplies and went off to work. On *kopište* the most experienced burner would arrange the logs, the others would cover them with branches and soil and light up the fire; they should be careful not to put the logs on fire, but only to singe them. They transported the coal to the large warehouses in Rijeka, Bakar, Kraljevica, and then by ferryboats (*tragheti*) to Jakin, Chioggia, Venice, etc. The lives of our charcoal burners were full of poetry, sweat, hardships and hard work. They toiled from dawn till dusk, they worked during the nights, and those who went to sleep, would break their bones on the hard ground. Today it would be the scorching sun, tomorrow the ice cold wind or cold weather, storm, dust or rain and yet their merry songs witnessed of their joy and happiness.

I have never heard a burner curse, even when I would find him in heavy rain, choking in thick smoke. If I would ask one of them, how did they feel, they would retort: 'Ah, well, sir, as long as the God gives us good health and polenta!'

Polenta was their everyday bread, sometimes seasoned with bacon, and they also ate cabbage, potato, salty coastal cheese, onions, and during holidays a bit of ham (*prosciutto*). If they would find dormice in a hollow birch tree (*pušina*), they would kill them with smoke and roast them.

They would place a board between two tree stumps, sit on logs around it and have lunch together, except for those who were on the burning site.

On Sundays and holidays they went down to the village to praise the Lord. At dawn the mountain would come alive with girls' songs. The men would arrive later, they would settle their accounts with the owner after the mass, take the flour, drink a glass of wine with their comrades and return to the mountain to their *ugljarica*' (Hirc 1993:47,48).

A hundred years later Josip Lučić Botrin published his memoirs of childhood spent in the region of Kastavština: 'Working with charcoal was considered to be quite fan-

cy, and the men from these regions preferred working in the mountains to working in the factory or some other town work...

We have come a long way from the times when hordes of men from the villages of Halubje went to the mountains to burn coal (*krbun*). They were up there every summer, from snow to snow, and that lasted for four months. They made coals from the timber cut down for them by foresters, and these were mostly birch tree logs good for nothing else. The cut down timbers were sawn to an exact measure and were arranged in the charcoal kilns (*ugjenice*), which looked like domes and were thus called *kopi*, and if they were smaller, *mulci*. The burning site was called *kopišće*.

A smoldering flame was sustained in *kopa*, and when the coal was cooled down, the wood was arranged in heaps. Charcoal (or 'sweet coal') was light and pure, without sulfur, and after it burned down, there was small amount of ashes. The coal heated better than the wood and it was used in some crafts, by blacksmiths and even in metallurgy. Ironing was impossible without coal and it was used for making gunpowder. Children were acquainted with charcoal burning at an early age, and after they finished the elementary school they would follow older boys to the mountain and later, as adults, they worked in groups (called *kumpanije*) as companions. Maximum four men worked in one *kupmanija* and the oldest one was the head of the group.

As early as the month of April, *kumpanija* went to the mountain to collect snow and store it near the place where they would burn coal. They would place heaps of snow on one place and cover it well. When the weather would grow warmer, worms would sometimes appear in those snow heaps, but the water was still good for cooking and drinking. When they collected the snow, they went back home and waited for warmer weather. At the beginning of May, when the snow melted down, they went to the mountain. In earlier periods they would carry the tools, clothes and food themselves and later, a few *kupmanijas* would organize a joint transport. Flour for polenta and bacon were the main and actually the only food in the mountains, and they would obtain it and use it collectively, while everything else a person brought with him/her was their own. The first job in the mountains was to build a cabin, which they called *kućica*, in which they would spent one third of a year. The cabin was built from logs placed one next to the other, covered with planks and a door, made from boards, was placed on the house's front.

Close to the door and next to the entrance there was a hearth enclosed with a circle of larger stones and next to the walls each burner would make for himself a sleeping bench which they called *klada*. Above the bench there was a shelf on which they kept their belongings, which they used everyday (sugar, coffee, spoon, etc.). In front of the house there was a large trough and above it small planks where they would put snow which would melt down into the trough.

This is what it looked like, when I visited during my summer holidays a *kumpanija* on Suho in which there were: Ludve Botrin, Drago Ivanićev, Dolfo Patrijarkov and my father who was the oldest and was the cook and the head of the group.

I remember that the small house looked very nice to me, but there was no space in it for another sleeping bench, so I had to sleep on the twigs placed on the ground. We slept with our clothes on, as it was customary with the charcoal burners, but we still had to find something to cover ourselves, since we were in the forests on the mountain 1000 meters high and it could get really cold even during the summer. During that time, at almost all the burning sites near Suho, *kopi* and *mulci* were already burning, the smoke rose from them, and their smell permeated the forest. When the day was breaking, and the burners were already up, the birch and pine trees were covered by the blue smoky mist. During my first night in the burners' cottage, I tossed and turned in my hard bed and listened to the sounds of forest at night.

Half asleep, I heard that some of the burners got up in the night, put on their shoes and went to the burning site where *kopa* was burning. They had to do that every night so that the flames would not turn wood into ashes instead of coal. If the burner who was checking up the *kopa* noticed that something went wrong, he would alert everybody and they would go and made the necessary repairs. If the night was uneventful, in the morning the burners would put on their shoes and go to the trough to take some water from it and wash their hands and eyes. For breakfast, lunch and dinner the burners would eat only polenta, potato-pie or *cicmara*, and drink the ice cold water obtained from snow. During rains, they would collect snails which would significantly improve their menus.

As the summer was coming to its end, the burners would finish off their work in the mountains, since soon after the Day of Mala Stomorina the weather could turn foul. When all the coal was transported and some of it was stored in their cabins, they would also collect the burned leftovers (*braška* and *krbini*), which would also come in handy for lighting up their house fires during winter. If they decided not to burn coal at the same spot next year, they would dismantle the cabin and bring the cabin wood home with them. When they would arrive home, they would have a lot of trouble trying to wash out the black soot from the coal which went under their skin' (Lučić 2005).

The accounts are here presented entirely not only because they represent authentic testimonies which confirm the charcoal burning as an important means of subsistence which included whole families or organized '*kušmanije*' on entire regions, but also because they are a valuable proof of harsh livelihoods, life conditions and social status.<sup>4</sup>

Today in the regions of Gorski Kotar (from Čabar and Šegin, through Risnjak to Osojnik and Jadrče near Vrbovsko), Kastavština and Halubje (with Marčelji and Viškovo

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<sup>4</sup> According to some data, charcoal burning in these regions could be dated back to the 16<sup>th</sup> century and its production flourished after opening of the ironworks in Čabar and Brod na Kupi in the 17<sup>th</sup> century. In 1875, Charles Yriarte wrote about his travels through Čičarija: 'They are all charcoal burners, they live without education, without tradition, without memories; their wives are closer to animals than to human beings and they do the hardest of jobs. They are the ones driving their long, narrow wagons down the roads in dark nights....while Čić lies on coal sacks...'. Between the two world wars it was confirmed that two women 'went to sell coal to Volosko, a policeman came and wrote a report and the judge sentenced them to three days in jail'.



today being the northern outskirts of the town of Rijeka) and in the nearby Učka region, in Čićarija, ‘*paleri*’ and ‘*krbuneri*’ (charcoal burners) working in this harsh trade are very rare and the members of the younger generation hardly know what does it mean when a ‘*paler*’ says: ‘I’m going to light up the *mulac*’.

*Karbunice*, *kope* and *mulci* (smaller *kope* made from the leftovers of non-carbonized wood), are built vertically by arranging logs in circles in two or three levels on the burning site (*kopišće*), so that the circular base ends up in a cone-like structure on the top. In the first level, the logs are around 2 meters high, in the second around 1 meter and in the third (on top) they are from 30-40 centimeters long. When the cone is built to the height of approximately 3 meters, wet leaves (feathers) and even grass are placed on top. The coal dust (*braška*) from previous burnings is mixed with moist soil and placed above all this. Holes (*škulje*, *pipe*) are then made on the body of *karbunica*, through which the smoke will come out and during the burning process they are closed from top to the bottom. The appearance of a thick blue smoke is a sign that the top holes have to be closed, and then the lower holes are closed until the end of the process the duration of which depends on the size of *karbunica* (from 20-30 to 60-70 m<sup>3</sup>).<sup>5</sup> (fig. 2.01)

However, in the region of Čićarija there were two traditions of burning depending on whether the kilns were burned from the bottom or from the top (‘head’) and with some minor differences in construction. If the kiln was burned from the bottom, an empty space was left in the central part ‘above which thin boards were placed, and that space opened up at the doors through which the *karbunica* was lit. The doors had to reach the central part.’ If the kiln was burned from the top, ‘when the *karbunica* was still under construction, a *heart* was made....of thin, very dry wood.... We would leave it open at the top until a large flame would rise. Then from the top to bottom we would place logs 10 centimeters long. We called this *bokanje*. We would be doing it for three or four days, placing woods inside three times a day. After that, we would close up the top; take a thin metal plate and would cover everything with soil.’ (Bjažić 1999).

The first tradition is characteristic for the Southwestern slopes of the Učka mountain in the villages of Nova Vas, Šušnjeвица, Brdo, Letaj, Brest (Kraljevski), Brgudac, and the second for the Northwestern region: Žejane, Mune, Dane, Jelovice, Vodice as well as in Slovenia, in a region close to Čićarija.

During the 19<sup>th</sup> and the first half of the 20<sup>th</sup> century, charcoal was produced in the vicinity of the town of Zagreb, in Samobor Mountains and on the Eastern slopes of Medvednica, in the region of Bistra.<sup>6</sup>

<sup>5</sup> From 1m<sup>3</sup> of wood (the beech tree was considered the best) you can get 100 kilograms of charcoal.

<sup>6</sup> *Vuglenari* worked in Gornja Bistra, Poljanica and Markov travnjak. There is an initiative to commemorate their trade by building a model of *vuglenica* under the frameworks of the Project ‘Educational Path’ in the Nature Park Medvednica. One ‘*kopa*’ with a small charcoal burners’ cabin has been already placed on the educational path ‘Leska’ in the Nature Park Risnjak as part of the festival of traditional trades and crafts in the village of Poklon on Učka Mountain (above Opatija and Veprinac) and since the Fall of 2007 a building and burning of a small kiln has been included into the program. Numerous festivals orga-

This ancient, original way of building *karbunice* and *kope* has been preserved until recently in some cases in Istria and Gorski Kotar (besides with leaves, they can be covered with straw, fern, corn stalks and saw dust) and very rarely in the Eastern regions where it has been replaced by the tradition of brick and dome shaped *vugljenice*, *ugljenare* and *ugljare*.

Hence I was really surprised when I found the old type of *vugljenice* very similar to the Ćićarija and Gorski Kotar type, in the region of Hrvatsko Zagorje, on the Northern slopes of Ivančica Mountain, in the villages of Prigorec and Ivanečka Željeznica during my field work in the Spring of 2007. (fig. 2.02)

In this region, charcoal burning was common during the 19<sup>th</sup> and the first half of the 20<sup>th</sup> century. There was a kind of symbiotic bond between the charcoal burners, smelters and blacksmiths, since in the vicinity there were active mine pits from which Zink carbonate and Galenite, iron ore, were exploited and in the nearby Kuljevčica there was a Zink smeltery, which was an additional motif for the existence of these crafts in the second half of the 19<sup>th</sup> century and the entire work was coordinated by the *Societe Anonime Metalurgique Austro-Belge* and *Viennese Industrial Charcoal Burning Association*.

A few families burn *vugljenice* even today. In the past they would sell the charcoal to the railway, a few Varaždin companies and a *ciglana* in Gornje Tužno, and sometimes even to the ironworks in Lendava, today they pack it in paper bags and sell it mostly to the local restaurants. Sometimes, during the summer, they manage to find a salesman and sell larger quantities to tourist places in Dalmatia.

*Vugljenica* is build from a circular base, logs are placed vertically around four hawthorn poles and are covered by leaves, pine tree branches, coal dust, soil and 'forest sand'. The hardest part is the 'stepping', '*peštanje*' or '*bokanje*' which is done five to six times so that a 'head' (*glava*) is opened which is soft due to the lowering of the coal, especially after 10 to 15 days of *štoranje*. *Štoranje*, opening up of *vugljenica*, and extracting coal is done in the early morning hours, after pouring water over *vugljenica* and cooling it down.

In the Eastern regions, from Sv. Ivan Zelina to Kalnik Mountain, in the summer of that same year, I have found both charcoal kilns and burners (*vugljenice* and *vugljeničari*) in Zrinščina and a few families in Draškovec and Zaistina as well as in the villages un-

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nized in some villages, regions, nature parks and open air museums such as Neerdar, Kyllburg, Tharandt, Dorchberg, Bad Kohlburg, Lüsslingen, Hirschberg, Odenwald, 'Hessenpark', 'Freilichtmuseum Stübing', 'Natur Hohe Wald – Niederesteeich', Westfälisches Freilichtmuseum Hagen', 'Parko Nazionale della Majella', etc. remind us on a very common tradition of charcoal burning, with models of charcoal kilns made of soil, leaves and '*braška*' in Swiss and Bavarian Alps, in Schwarzwald Mountains, but also on a wider region of forests from the Apennines to Transylvania.

Large amounts of wood, mostly beech wood, next to charcoal burning were also used for obtaining 'pepeljika', 'potaša' and for obtaining lime. 'Pepeljika' (KCO<sub>3</sub>) was used as one of the main raw materials for the production of glass until the middle of the 19<sup>th</sup> century. Hence next to the charcoal burners the forests of Gorski Kotar all the way to Papuk in Slavonia were also exploited by '*pepeljičari*'.

der the slopes of Kalnik Mountain, Globočec, Duga Reka, Glogovnica, Stupe, Apatovac, Ludbreški Ivanec.<sup>7</sup>

*Vuglenice* (sometimes called ovens) are generally build up to 3 meters high. Close to the ground (*podnice*), there is an opening through which the logs are placed inside the *vuglenica*, which is shut by metal doors when *vuglenica* is lit and through which the coal is extracted. On the top, there is an opening (*grot*) through which the *vuglenica* is filled to the top and a wooden construction used for transporting wood for burning is connected through a platform (*trepa*) with the top of *vuglenica*.

Larger logs are placed close to the ground and towards the top, smaller logs up to 8 centimeters in diameter (*priglin* and *runt*) and *gule* – the wooden leftovers which could not be cut down to smaller logs. The *vuglenica* is lit at the top and during burning the holes, *dimnice*, are closed from top to bottom.

The burning process in this type of *vuglenice* lasts for approximately ten days, after which the *vuglenica* is cooled down, opened and the coal is extracted and packed for transport. (fig. 2.03)

Smaller quantities of charcoal are still burned in the mountainous regions near Našice and Đakovo, to the East of Kalnik, and these last remaining charcoal burners also supply the local restaurants and barbecues.

Notwithstanding the regional dialecticisms, it is interesting to observe that in the traditional charcoal burning terminology in the whole region where the charcoal was being produced, a few common terms are used: *k(a)rbini* – insufficiently carbonized wood, *mulci* – smaller *kope*, *braška* – coal dust, *bokanje* – stepping, passing, filling or even *kuhanje* (cooking) as the names of the process. On one hand, this could be explained by expansion and diffusion of an occupation which was much more common in the Western regions and on the other hand, by population migration, especially from the region of Gorski Kotar towards the East.

Today in Croatia there is only one small industry producing charcoal. This is Belišće, LTD., which produces coal by dry distillation, packages it and sells as EKO GRILL BRIKET, and there are also a few smaller producers who use brick kilns and are work-

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<sup>7</sup> In the majority of the villages around Kalnik, up to 20-30 years ago, *vuglenice* were built in the old way and covered by earth. Some were composed of several hundred meters of wood and burned for 45-50 days, and the coal was extracted for almost two weeks. The job was very hard and demanded the constant attention of several workers, who had to maintain *vuglenica* and react in dangerous situations when the heavy rain threatened to destroy it or when 'preboka and žar escaped aside' or when it was 'breaking' at the top (*spušta od ramena*), making a big whole in the middle. These are rare today, and the new kilns which can be used for a few years are build from brick and plastered with mortar – mixture of lime and cement. This technique was adopted from the masons – builders of charcoal kilns from the Western Serbia, from Kosjerić, who built for them the first kilns in the 1980ies. Since then, the members of many families in Zrinščina (Rebek, Posilović, Mojčec, Škuratan) have been building and maintaining the new kilns – *vuglenice*. An interesting finding is that at the beginning of the 20<sup>th</sup> century the charcoal burners from Zagorje sold their coal on the Britanski Trg in Zagreb (once known as Ilički trg, Mali Plac) and slept in the nearby house called by the townspeople 'Charcoal Burners' Hotel'.

ing for wood-processing industry (like the one in the town of Križevci). Similar kilns can still be found in Garešnica and in Buzet.

However, the fact remains that the charcoal burners, with the several generations long tradition of engaging in this business and despite of certain adjustments and improvements in the technique of building charcoal kilns, are counting off their last days. The remaining sites where the coal is still burned in the traditional way are actually in a certain way corresponding with modernity only as the loci of local imagery.

*Translated by Tanja Bukovčan*